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ARTICLE I.

LECTURES ON MILITARY SURGERY:

DELIVERED DURING THE SUMMER COURSE OF THE MEDICAL DEPARTMENT OF LIND UNIVERSITY.

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LECTURE SIXTH.

HOSPITAL GANGRENE.

When a large number of wounded are placed together in hospital, without sufficient ventilation, or careful dressing, the most disastrous results speedily ensue. Hospital gangrene and traumatic erysipelas break out in an epidemic form, and make fearful havoc among the patients.

The discharges from gun-shot wounds are generally copious, and often offensive, from the presence of gangrenous tissue in the wound. If, therefore, the number of patients is too great for the supply of attendants, the pus will inevitably run down upon the bedding, and by decomposition become horribly foul and offensive. If, in addition to this, the hospital is overcrowded and insufficiently ventilated, the men are constantly bathed in a foul and poisonous atmosphere. Experiment shows that, not only is the air full of ammonia, sulphuretted hydrogen, and other gaseous products of putrefaction, but also is charged with solid particles, such as dried pus-corpuscles, microscopic shreds of dead and dessicated tissues, and

excretions. The inhalation from day to day of such an atmosphere, speedily changes the diathesis of a patient from a healthy to a feeble aplastic one, which is ready to take on any kind of disease of the asthenic type. At the same time, either the chemical decomposition of dead animal matter, or else the depraved action of living tissue gives origin to a specific poison capable of being wafted on the air of the hospital, and carried from patient to patient, and spreading the terrible hospital gangrene. This disease generally manifests itself on the edges of a wound, in the form of a small gray or dark gelatinous looking slough of a semi-transparent appearance, as though it were soft, and capable of being wiped away; if however, it is touched with a sponge for the purpose, it is found adherent and possessed of sufficient consistence to withstand the effort. Sometimes the disease begins as a dusky red swelling, like a boil, with a pustule upon it, which breaks and becomes the starting point of the gangrene. The affected part becomes painful. The wound is at first dry and irritated, but afterwards discharges copiously an offensive, unhealthy pus. The edges are apt to be puffed up with a red, erysipelatous looking inflammation, suggesting the idea that the poison present is the same as that of erysipelas.

On the second day the slough will be found enlarged, and it continues to spread in many instances, without any definite limitation, until death. The patient has a low adynamic fever, and dies with symptoms resembling typhus.

When the disease makes its appearance in a wound, it is speedily spread by infection to other patients, and in a short time makes a fearful destruction of life.

The most important part of the treatment in this disease, is prophylactic. It will be almost useless for the surgeon to exhibit particular remedies to the cases as they occur, if he allows the constitution of his men to be undermined by the breathing of poisonous effluviæ. The first thing, therefore, to be seen to, is ventilation and cleanliness.

Ventilation is to be accomplished by proper construction of the hospital. This should be such as to allow, at least, one thousand cubic feet of air to each patient. There should

be a very free circulation of air by openings in the sides of the building, near the ground, and others above near the eaves. The foul air will then readily escape at the upper openings, and fresh enter below. If a private house is taken for a temporary hospital, the windows and doors will often suffice for openings; but if there is any doubt about it, large apertures should be at once cut in the walls.

Another expedient which increases the amount of fresh air to each man, is to disperse the patients, so as to have as few as possible in a ward; but, if, in spite of all feasable precautions, the disease makes its appearance, some decisive action must be taken. If no other method offers, the hospital must be evacuated, and the inmates be lodged in the open air, under trees and awnings, until, from improved circumstances, the epidemic is subdued.

Cleanliness is a thing which can only be attained in crowded hospitals by vigilant oversight of the surgeon, and hard work by his subordinates. Wounds will require dressing from one to three times a day, when actively discharging pus, and there is no way to accomplish the work, but by hard labor. It will generally be found best to avoid poultices, as they confine the pus too closely to the tissues; and to make a free use of water dressings. If there is any erysipelas or hospital gangrene, the same sponge should not be used upon two patients, as from its intricate structure it is impossible to cleanse it thoroughly, and it is liable to carry contagion. Many military surgeons exclude sponges from the hospitals entirely, and use pledgets of tow and cotton in their place, throwing them away at each dressing.

The surgeon also should bear in mind, that no probes or other instruments which have been used in a case of this disease, should ever be used on another patient, until they have been thoroughly cleansed by washing, and then dipped in boiling water. There is no doubt whatever, that some surgeons have carried death around their own hospitals, by their want of care in cleansing their instruments. In short, every precaution should be taken, which is required in the presence

of a deadly contagious disease, which is capable of being propagated, both by inoculation and infection.

The curative treatment is both local and constitutional; the objects being to destroy the diseased tissue with its poisonous products, and to correct the abnormal diathesis from which it sprung.

The best local application is strong nitric acid. To apply it thoroughly, the sound integument around the slough must be coated with cerate, to protect it from cautery. If the slough is thick, it must be cut away with the scissors, and then the fuming acid applied by means of a pledget of lint tied to a stick, dipped in the acid and then pressed into every part of the wound. Chloroform may be given to obviate the pain. The acid converts the diseased tissue into a firm, hard coating, which, in a few days, sloughs off and leaves a healthy ulcer beneath. If, however, any part of the surface still appears diseased, the cautery must be repeated until normal granulations alone present themselves.

Some American surgeons in the Crimean war made use of creasote in the same manner, with excellent effect, and with less pain to the patient.

The constitutional treatment consists: first, in restoring the sick to a perfectly pure atmosphere and to entire cleanliness; and second, in the use of such tonics as will help them to resist the effects of the poison. The remedies which have the best effect for internal use, are quinine, nitric acid, and muriated tincture of iron. The latter is in many respects the most useful, because the system will tolerate it in larger quantities, without irritation. It should be given in doses of twenty or thirty drops every two hours, night and day.

Ammonia, which is often prescribed with a view to its stimulating effect, should be carefully avoided, because the system is already saturated with it, and ready to fall into dissolution from the deleterious influence of the alkaline diathesis.

ERYSIPELAS.

This is another scourge of war surgery. It falls like a pestilence upon the wounded, carrying off hundreds of men, who, in civil surgery, might have recovered with ease.

The causes of erysipelas in the form seen in camp, are the same as those which produce hospital gangrene. Indeed I think that the poison is of the same nature only a little less powerful, so that it does not as promptly destroy the life of the tissue on which it lodges. All that I said, therefore, respecting the causes of hospital gangrene, may be applied without exception to the etiology of erysipelas.

It is unfortunate that the identity of several forms of this disease is so obscurely recognized by many writers. Thus, in a list of surgical cases, it is common to see one death ascribed to erysipelas, another to absorption of pus, or purulent infection, another to metastatic abscess, etc. Now all these are one and the same thing, and that thing is *erysipelas*. Pyæmia comes from aplastic phlebitis, and that form of phlebitis which produces pus in the veins and kills the patient, results always from the presence of the erysipelatous poison. A similar observation may truthfully be applied to the terms metastatic abscess and purulent infection. In fine, if your hospital is clean, the air pure, and the constitution of the men in a plastic diathesis, there will be very little erysipelas, phlebitis, pyæmia, absorption of pus, or metastatic abscess.

The symptoms of traumatic erysipelas are unfortunately too familiar to every surgeon. A few days after a surgical operation, perhaps a very brilliant and important one, a little puffy redness is seen upon the edges of the wound. The lymphatics leading from it, shoot red and tender streaks up to the nearest lymphatic glands. The glands thus injected with poison, become swollen and tender. The redness and swelling about the wound, extend rapidly, accompanied with a good deal of burning pain. The adhesive process in the wound is stopped, and an unhealthy aspect supervenes. Very often the limb affected swells enormously; the areolar tissue beneath the skin mortifies, and when exposed by an incision, presents the same gray gelatinous appearance which is observed in hospital gangrene. The skin itself being cut off from nutrition beneath, mortifies, and the extension of the disease often destroys the patient. After death, dissection brings to light, in the same patient, phlebitis, pyæmia, and

metastatic abscesses. The constitutional symptoms are of the same adynamic typhous character as in hospital gangrene.

From what has been said, it is obvious that the prophylactic treatment, is chiefly good air and thorough cleanliness. The precautions before mentioned for avoiding contagion and infection, are also to be fully observed. In civil surgery, I have made extensive use, for three years, of muriated tincture of iron, as a prophylactic. Having observed the powerful effect of this remedy in cutting short the disease after it has commenced, it occurred to me to use it in advance, to prevent the attack. I have therefore given it with this view, after all my cutting operations, both in the hospital and in private practice, and the result is, that *since I have commenced this precaution, no patient of mine has died of phlebitis, pyæmia, nor any other form of traumatic erysipelas.* I cannot but think, therefore, that the adoption of the same plan would greatly reduce the mortality in military hospitals. But this medication is by no means a substitute for thorough ventilation and cleanliness. If the fetid gases and foul discharges of a thousand wounds are allowed to saturate the blood of the hospital inmates with poison, let no surgeon think that he can evade all the consequences by pouring into their rotten systems, any medical preservative. Some, it is true, may be cured even then, but very many will die.

The curative treatment of erysipelas is now pretty well settled. Taking as a clue, the fact that it is a disease of an aplastic nature, in which an excess of alkaline secretions is present, tending by that excess to dissolve and break down the tissues, we readily see why all experience points to the use of such remedies as have the power of destroying alkaline products. By far the most efficient remedy in erysipelas, is per-chloride of iron, usually given in the form of the muriated tincture. Per-chloride of iron is an unstable compound, and presented to any alkaline fluid, it immediately neutralizes it by yielding a large quantity of chlorine. Hence, its prodigious power of reducing to a solid form, various alkaline fluids of the body, such as pus, blood, and serum. When given freely, it is capable of completely changing the diathesis of a

patient within thirty hours from a purulent to a plastic condition. Most striking illustrations of this fact have occurred in my practice.

Two pathological conditions are necessary to produce an erysipelas. One is an alkaline, and therefore aplastic diathesis, marked by a peculiar tendency to produce serum, or pus upon the slightest irritation, and by a striking incapacity to limit its spread by any plastic barriers. The other condition is the presence of a specific poison of an irritant character, capable of inoculation, and which produces the inflammatory action. If both these conditions be present, the patient has erysipelas; if either be absent the disease cannot exist. The per-chloride of iron acts directly, I think, upon both conditions. It rapidly neutralizes the alkalies and induces a plastic diathesis, and the chlorine destroys the organic poison. In order to get this decisive influence, it is not enough to give ten or fifteen drops of the tincture a few times a day. Twenty or thirty drops must be given every hour or two, until the effect is produced. The extreme rapidity of the disease requires the utmost promptitude of action.

Other tonic remedies have also a good reputation, especially quinine given in large and frequent doses. The mineral acids are also useful, but the vegetable acids seem to be inert when given internally, because being organic, they are digested and destroyed in the stomach.

For local treatment, one of the most useful things is to make free incisions for the evacuation of the poisonous serum and pus. Next to incision, the abundant application of iodine or nitrate of silver is valued by our authorities. If iodine is chosen, it should be dissolved in glycerine, and kept constantly applied. The painting of the surface with the tincture, lacks efficiency, because the alcohol evaporates in a few minutes, leaving the iodine dry and in an unfavorable form for absorption. In domestic practice, the cranberry poultice is often used with good effect, the acid of the berry serving to neutralize the alkali of the diseased part.

Cold water is much less efficient in this disease than in sim-

ple inflammation, and poultices, unless of some acid or astringent substance are injurious.

In general the best treatment is a very free use of quinine and tincture of iron internally, and a few incisions, with glycerine and iodine externally.

ARTICLE II.

RUPTURE OF THE UTERUS.

Reported by JAS. S. KING, M. D., of Lemont, Ill.,
Late Resident Physician St. John's Hospital, Cincinnati, Ohio.

August 7, nine P. M.—Called to see Mrs. Mc——, a robust Irish woman, æt 34, in her second confinement. She said, that at five A. M., without any pain accompanying it, "the bag of waters had broken," since which time she had had sharp cutting pains at intervals, but still not sufficient to cause her to discontinue her usual domestic duties. During the half hour previous to my arrival, the pains had been slightly increasing. On making a vaginal examination, I found the parts of natural temperature and moist, but could not reach the os uteri. I retired, telling the nurse to call me as soon as I was needed. At half-past eleven the nurse called me, saying that Mrs. Mc——— had been having very good pains during the past hour, and that she had vomited several times. I now made another examination, and to my surprise, found the head of the child engaged in the superior strait. She continued to have pains at intervals of from five to ten minutes during the night, resting well between them; but I was surprised and perplexed to find that the head did not advance any. After a close examination, about five A. M., August 8th, I concluded that the child was dead, and that, together with the early escape of the liquor amnii, was the cause of the non-progress.

At six A. M., I left her, and returning at eight o'clock, found that there had been no change in the character of the pains, nor in her general condition; her pulse was about natural;

surface moist, and she appeared in good spirits. Upon a close examination of the uterus, through the abdominal walls, I now detected an inequality of its surface, from which, together with a greater enlargement than usual, I concluded that perchance there were two children. From about nine o'clock till half-past eleven, the pains were shorter and at greater intervals, when they again increased in force and frequency, and so continued for about an hour, but without changing the position of the head, when they again diminished. I now sent for Dr. H. G. Hall, of this place, in consultation. After making an examination, and noting for a time, the character of the pains, which continued to grow less in force and frequency, Dr. H. recommended the use of ergot, in which I concurred. We administered it in the usual dose, about two P. M., and again in half an hour. The pains continued to diminish gradually until at three o'clock, (when we administered a third portion of ergot,) they had almost ceased; by four o'clock all uterine contractions had been suspended; position of child's head unchanged. She now complained of cramps and pain in right thigh, together with a feeling of uneasiness in abdomen. Pulse 90 per minute; surface of natural temperature and moist. At five o'clock we left her; returned about seven; found that there had been no return of uterine contractions, but that the trouble in abdomen and thigh was increasing. At nine o'clock we concluded to give her an opiate to quiet pain and cause her to sleep. Pulse now 100 per minute; surface of natural temperature. The opiate did not have the desired effect, the patient still continuing to complain of the "peculiar feeling" in her abdomen, and by ten o'clock she had entirely lost the use of her right leg; about the same time she became delirious; pulse now 112 per minute, and of less force; surface slightly below natural temperature. At eleven o'clock we ordered brandy to be administered. By one o'clock A. M., August 9th, her pulse had increased to 130 per minute, and feeble; surface cold; expression of countenance anxious. We now commenced giving ammonia carb., continuing also the use of the brandy, and sent a messenger to Lockport (seven miles,) for obstetrical instruments. He returned about

seven A. M., but she was not now in a condition to be delivered, for notwithstanding the free use of the brandy and ammonia, she had continued to sink. Pulse now about 170 per minute, feeble and fluttering; respiration hurried and difficult; surface cold and clammy; countenance pale and ghastly; she had at intervals, since about four o'clock, vomited greenish matter. At the request of her husband, we now sent for Dr. Bacon, of Lockport, although we did not think she would live till his arrival. At eight o'clock she had a slight convulsion, and during the next half hour, she vomited several times, "coffee-ground matter," and at nine o'clock, died.

Post Mortem, August 9th.—At half-past one P. M., I proceeded to deliver the child, assisted by Doctors Hall and Bacon. Upon opening the abdomen, we were surprised to find a very large male child in its cavity, entirely without the uterus. After removing a quantity of sero-sanguineous fluid, and carefully removing a portion of intestine from over the child and uterus, we found that there was a rupture of the uterus, commencing about half an inch above the os uteri on the right side, thence extending up the side about two-thirds the length of the uterus, involving the contiguous peritoneum; the child had escaped through this rent into the peritoneal sac, where we found it in the following position: lying upon the right side of the abdominal cavity, arms folded over the chest, knees drawn up to the abdomen, back curved, head firmly engaged in the superior strait, with the posterior fontanelle to the right sacro-iliac synchondrosis, face to the left acetabulum. On removing the child and examining the uterus carefully, we found that its structure was not altered; it was of a purplish color; the edges of the rent jagged and uneven. The placenta, which we removed, was attached to the left side of the uterus. The os uteri was dilated just sufficient to admit of the introduction of the index finger.

Remarks.—In the case under consideration, we find an absence of nearly all the symptoms of complete rupture of the uterus as laid down by our works upon obstetrics. In this case the rupture evidently took place during the time inter-

vening between the first and second examinations, and I learn from the nurse, that she did not complain of anything unusual during that time, and that her pains were not particularly strong. There was no immediate suspension of labor-pains; no hæmorrhage whatever, from the vagina during her labor, neither was there when the liquor amnii escaped. The child's head neither receded nor advanced from the time of my second examination to the termination of the case. The collapse did not come on rapidly, but on the contrary, gradually, as will be seen by noting the symptoms. And as there was an absence of the general symptoms indicating a rupture, so was there of anything in the woman's previous history, to cause us to suspect such a calamity. Her first labor had been short, and without trouble. During her last gestation, she had enjoyed excellent health, not a symptom pointing out any disease of the uterine walls; her pelvis was not contracted, neither were the pains at the beginning of her labor severe.

ARTICLE III.

STRANGULATED HERNIA.

By W. A. GORDON, M. D., Wausau, Wis.

In the month of September, A. D. 1858, I was called eight miles distant, to see Mr. McC., said to have been attacked with bilious fever. Upon my arrival, I found a young man (farmer,) aged 24 years, of sanguine temperament, and a vigorous constitution. He had been taken suddenly ill three days previous to my visit, with very severe pains in his bowels; slight nausea and vomiting, with a considerable degree of fever. Symptoms now present were, quick, full pulse, 124 per minute; epigastric region and abdomen somewhat tender; frequent vomiting; great thirst and general lassitude. I ascertained that there had been no fecal evacuation for the past few days. Pills and castor oil had been given, but with no other effect than increasing the irritability of the stomach. A brief investigation convinced me that I had something more to deal with, than a common remittent fever, and the circumstances of the case led me to suspect a

hernia. But upon further inquiry, I could elicit nothing from the patient to corroborate my opinion. I must confess that I was not a little embarrassed upon receiving such information, and was not satisfied to reveal my diagnosis to the anxious friends, until I was thoroughly convinced as to the true nature of the case. I proposed an examination, and accordingly passed my hand over the inguinal region and scrotum, and as I had previously anticipated, found considerable enlargement of the left groin, and corresponding testicle. I expressed some astonishment to the patient that he had remained ignorant of this swelling during his illness; but said he, "It has been there these ten years." Judging from his statement of the usual size of the tumor, it was now considerably enlarged; not sufficiently so, however, to attract his attention previous to my examination, which revealed a case of oblique inguinal hernia. From its nature and long standing, I concluded that the original hernia was protrusion of the omentum, and the cause of present difficulty was produced by a portion of intestine being thrust forward in the same channel, induced by powerful action of the abdominal muscles and diaphragm, in the act of loading hay on the day previous to his illness.

The bladder was evacuated by means of the catheter, (there having been no spontaneous flow for twelve hours,) when I proceeded in the usual manner to reduce by the taxis. After manipulating about twenty minutes, the tumor was reduced nearly one-third in size; and any further endeavors at reduction seemed unavailing. It now occurred to me that perhaps the new protrusion was reduced, as the patient expressed himself as feeling relieved, and thought that the tumor was about its usual size. I ordered the patient to roll on either side, at the same time keeping the pelvis a little elevated, hoping that the gravity of the viscera would entirely retract the intestine from the canal, providing the hernia was not already reduced.

I remained with the patient about two hours, when he seemed so comfortable, I ordered the following enema:

℞ Chlor. sodium,
Sap. cast., - - - - ää ʒj.
Aqua fervent, - - - Oj.

One half to be used at the temperature of the body, and if no evacuation in two hours, administer the remainder. Hop fomentations in the meantime were applied to the abdomen. I left my patient comparatively easy, and with sanguine hope of finding him next day in a fair way for recovery. It was twenty-four hours before I was again able to see him, when to my sad disappointment, I found every symptom aggravated.

He had clandestinely been walking about his room, and re-adjusted the compress and bandage to suit his own liking. I now requested counsel, and forthwith dispatched a messenger for Dr. S. Marks, of Steven's Point, a distance of fifty miles, at that time the nearest reliable counsel. In the meantime, large doses of opium were given with the view of obtaining its specific effects, hoping we might yet succeed without an operation. It was full eighteen hours before the doctor arrived; and when we repaired to the residence of the patient, it was only to find him in a still more unfavorable condition. But little of the opium had been retained, and there was now more or less vomiting of bile, and stercoraceous matter; scanty urine; abdomen somewhat tense and painful; quick, wiry pulse, and a great restlessness and prostration. Attempts were again made to reduce by the taxis, as the tumor was much larger than when I last saw the patient. Our efforts seemed quite effectual in reducing its size; and from the relief which it afforded, we arrived at the conclusion that the hernia was again reduced, and applied dressings accordingly. Ordered hop fomentations to the bowels and tumor, and after six hours, if the patient was comfortable, then clysters as I had previously ordered.

We remained with the patient during the night, and at five o'clock A. M., a copious evacuation took place, containing quite a quantity of fecal matter. Vomiting had very nearly abated during the night, and as the patient expressed himself in the morning, "he felt better all over." His pulse was now 100 per minute; quite soft and comfortable; less tenderness of the abdomen, and no vomiting for four hours previous to the discharge. We examined the tumor before leaving; and

anticipating no further trouble on the part of our patient, left him the following:

℞ Nit. potassa.
Pulv. doveri, - - - - āā ʒj.
Hyd. submur. - - - - grs. x.
M. div. in pulv. no. vj.

One to be given every four hours. This prescription was to be followed by a mild dose of castor oil.

Upon my arrival home, I was called in an opposite direction, and was unexpectedly detained, so that it was quite impossible for me to again visit the patient for thirty-six hours. I had received two dispatches from there during this time, and upon my arrival, I was not surprised that the friends had been alarmed. The castor oil had been rejected, and from that time he had been vomiting, which was now superceded by hiccough; quick feeble pulse; cold sweat, and a decided hippocratic face.

To again send for counsel, which would consume, at least, ten hours, rendered the chances of the patient, (if he had any,) entirely hopeless; and on the other hand, to operate alone, and have the patient die under the operation, was indeed anything but a pleasant thought. It was apparent that he could live but a few hours at most, and the chances for him to survive the operation were extremely doubtful. After a few moments' consultation with the friends, it was decided that the operation should be immediately performed. With no other assistant than a neighboring farmer, the patient was anæsthetized and the operation commenced, by making an incision along the axis of the tumor about four inches in length, commencing mid-way between the internal and external rings, and extending to the middle of the scrotum. The coverings were successively raised with the forceps, and the apex of the elevated portion, slightly nicked, to facilitate the introduction of the director, which guided the bistoury in cutting through the different layers to the extent of about two inches, when arriving at the sac, it was found firmly attached by means of old adhesions on all sides.

It was evident that more or less dissection was necessary,

and the coverings were now cut through to the full extent of the original incision. About three ounces of serous fluid had gravitated to the lower extremity of the tumor, affording a good point for opening the sac. The omentum was protruded about three inches through the external ring, indurated and surrounding the spermatic cord about two inches. It was very much distended with gas, and presented a dark purple color. Fortunately we succeeded in nicely separating the gut from the sac, but in dissecting up the diseased omentum and detaching it from the spermatic vessels, it was unavoidably mutilated, so that it became necessary to cut away about two and a half inches. The dissection involved three small arteries, (branches of the superior mesenteric,) which required the ligature. The stricture was now divided, the intestine returned; and the portion of sound omentum to which were attached the ligatures, left in the external ring, thereby affording free exit for the discharge through the external wound, which was dressed with interrupted suture and adhesive straps. Morphine was given to allay pain, and milk-punch as a stimulating and nutritious diet. This treatment was continued twenty-four hours, when the patient seemed to have rallied sufficiently to admit of the administration of a cathartic. We accordingly prescribed ol. ricini, ℥j.; ol. limon. gtts. x, which operated very kindly in about four hours.

There remained some tympanitis and tenderness of the abdomen, accompanied with great debility, for which the following was prescribed:

℞ Hyd. submur., - - - grs. xij.
Pulv. opii., - - - - grs. vj.
Quinine sulph., - - - grs. x.
M. div. in pulv. vj.

One of these powders to be given every four hours, and beef-tea for nourishment. This treatment was continued for three days, when the specific effect of the alterative manifested itself, and simultaneously the disappearance of the tenderness of the abdomen.

On the fifth day, subsequent to the operation, the wound was secreting laudable pus, and the tenth day, the ligatures

were removed. The patient now improved rapidly, and six week from the time of the operation, he called at my office for the proper adjustment of his truss, which (I will here remark,) he has made no use of for the past twelve months,—feeling that he is permanently cured.

The remarkable features in connection with this case are, 1st, the recovery of the patient; and 2d, the radical cure of the hernia.

To my own mind, it was one well calculated to deceive even the more experienced surgeon; and the combined circumstances which deferred the operation until little or no hope remained, rendered the case one of more than ordinary interest.

ARTICLE IV.

REPORT ON THE SANITARY CONDITION OF THE CITY OF CHICAGO.

Prepared for the Regular Meeting of the Chicago Medical Society, held Sept. 20th, 1861.

By N. S. DAVIS, M. D., Member of the Sanitary Com.

Since the appointment of your committee, at the annual meeting of the Society in April last, the general health of the community has been good. The city has been visited by no epidemics; and the prevalence of ordinary sporadic and endemic cases of disease, has been less than the average of the last six years. This is not owing to any superior cleanliness of streets or other sanitary measures adopted by the city government, but is undoubtedly owing to the small amount of hot, sultry weather during the past summer. From memoranda made during a series of years, it appears that in this locality, we usually have the commencement of high summer temperature between the twentieth of June and the tenth of July, and the commencement of the ordinary endemic diarrhœa, cholera morbus, and cholera infantum, dates at the same period of time. This year, however, we had no high summer temperature until the very last days of July and the

first week in August. Then we had eight or ten days of oppressively hot weather, with a prevalence of south and south-west winds. This was succeeded by a severe storm from the north and north-east, and the continuance of a comparatively low summer temperature up to the present time. From the records of mortality, as well as from present observations, it appears that the annual prevalence of bowel affections, especially among children, usually dates its commencement with the first week of high temperature during the last of June, or first of July, and they continue more or less severe until past the middle of September. This year, however, according to my own observations, attacks of diarrhœa and cholera morbus, whether in children or adults, were much less frequent than usual, during all the month of July. The correctness of this is sustained by the diminished mortality of that month, as compared with previous years. Thus, the mortality of July, 1860, was 288, while that of July, 1861, was only 239. Another feature worthy of careful attention is, that while the number of cases of diarrhœa and vomiting occurring during July was much less than usual, there was a greater tendency to take on the form of dysentery. So manifest was this tendency, that in almost every case which had continued three days or more, the skin was dry, the pulse accelerated, and the intestinal discharges mixed with mucus, and not unfrequently streaks of blood. On the accession of the hot, sultry weather during the first week of August, attacks of diarrhœa and cholera morbus, especially among young children, became rapidly increased, both in frequency and severity; and in a few cases, symptoms of collapse were early manifested. During that period, several cases of "*sun-stroke*" were reported in the papers, some of them fatal. None came under my observation, however, and from some inquiries, I am inclined to think that most of those reported in the daily papers, were affected more by *whisky* than the sun.

During the brief period of high temperature alluded to, I saw three cases in adults, strongly resembling spasmodic cholera. The violent vomiting and purging of serous fluid, was accompanied by cramps in the muscles of the extremities;

husky voice; blueness and corrugation of the skin; sunken eyes; full pulse, and coldness of surface. Only one of these cases terminated fatally. Since the storm that abruptly terminated the brief period of high temperature in the early part of August, intestinal affections have assumed much the same character as they exhibited during the middle and latter part of July; that is, the *number* of attacks has been less, with a greater tendency to dysentery. During the last three weeks primary attacks of diarrhœa or vomiting in children have been rare, while cases of ordinary dysentery among adults have been more frequent. Most of the cases of dysentery have been mild and easily controled by ordinary remedies. Within the circle of my observation, the summer has been unusually exempt from fevers of any kind, having hardly met with a well-marked case of continued fever previous to the first of September. Since that date, cases of typhoid or enteric fever have been gradually increasing in frequency. They have been mostly mild and devoid of unusual features. Within the last two weeks I have met with several cases of well-marked typhus. All but one, however, belonged to the same family. This family had recently moved into the city from a miserably constructed shanty, in which they had been living, on the open prairie during all the summer. The mother and five children were all prostrate with the disease. The father and the youngest child, a nursing infant, were the only members of the family exempt. Most of them had been two weeks sick, without any medical treatment, when I was called to see them. By the internal use of chlorate of potassa, and a fair supply of milk and animal broth, three of them have slowly recovered. Two of the children still remain in a feeble state from the continuance of a moderate diarrhœa, after apparent convalescence from the general fever.

During the week of very hot weather near the first of August, I was called to an unusual number of cases of convulsions in children. I also noticed during the same time, a peculiar manifestation of nervous and cerebral symptoms in children affected with diarrhœa. In some, who had been much prostrated by the excessive evacuations, the functions of

the brain became exceedingly depressed, especially during the afternoon of each day. Between one and three o'clock, p. m., they would fall into a partially comatose condition, the face pale; the eyes partially closed; the chin dropped; the respiration slow and sometimes sighing; the pulse feeble; and the pupils moderately dilated. From this state, it was difficult to arouse them, for five or six hours. In a few instances, instead of this dormant, or partially comatose condition, there was great restlessness; a constant rolling of the head; tossing of the limbs; moaning, etc., with dilated pupils; but *sunken fontanelle.* These symptoms were evidently owing to cerebral exhaustion, produced by the combined influence of excessive evacuations and an unusually high temperature. They were best relieved by tannate of quinine, chlorate of potassa, and diffusible stimuli, aided by such anodynes as were necessary to control the intestinal evacuations.

In addition to the cases of diphtheria reported verbally at the meeting of the Society in July, I have met with four others, the last of which occurred only a few days since. They presented nothing worthy of notice, except that one of the cases occurring in the person of a young lady, was followed by paralysis of the fauces, rendering deglutition awkward; causing liquids sometimes to regurgitate through the nostrils, and giving to the voice a very unpleasant *nasal* sound. The diphtheritic inflammation was only of the average degree of severity, and was accompanied by only a moderate degree of swelling and ulceration. My attention was not called to the paralyzed condition of the fauces until some two weeks after all *appearances* of inflammation had disappeared from the neck and throat. There was a moderate degree of general debility, but the patient was more annoyed by the alteration of her voice than anything else. Under the influence of the following prescription, coupled with a plain but nutritious diet, and moderate exercise in the open air, the paralysis entirely disappeared in about two weeks:

℞ Strychnia, - - - grj.
Nitric acid, - - - - ʒj.
Water, - - - - ʒij.

Mix, and take a teaspoonful in sweetened water, before each meal. I have directed the same treatment in five or six cases of paralysis following diphtheria, and with like success. In closing this report, I would call the attention of the Society to the fact, that reports of deaths are frequently made, in which the cause of death is said to be "teething."

Is there any such disease as "teething?" If so, will some member of the Society inform us of its symptoms and pathology?

ARTICLE V.

A CASE OF PERIODICAL STRABISMUS.

By F. N. SMITH, M. D., LaHarpe, Ill.

A son of Mr. Brockway, of this place, aged four years, was attacked a year ago last March, with dysentery. He only suffered from it about a week. At the time convalescence from this disease commenced, he became affected with convergent strabismus. This caused so much anxiety on the part of his parents, that they consulted their physician with reference to it. He prescribed alteratives and tonics. Under this treatment, the strabismus gradually subsided, and I believe he was considered perfectly free from it, for three or four weeks, when it returned, but periodically, occurring on every alternate day. He was now treated with anti-periodics. Quinine was first used,—this failed. Arsenic and strychnine were successively used, without any benefit ensuing, though the latter remedy was given till its constitutional effect was produced. All treatment was then suspended. He has taken nothing for over a year. Up to three months ago, the strabismus continued much the same, strictly periodical. The child's health has continued good, with very slight exceptions, from the time of attack of dysentery alluded to in the outset. His mother says he appears more fretful on the day his eyes are affected, than on the preceding day. Of late, the strabis-

mus has shown a tendency to occur every day. In fact, occasionally, for several days in succession, his eyes will be affected every day, with scarcely any difference in their appearance; then for some weeks, perhaps, the periodical character of the affection will be prominent. His appetite is excellent, and he sleeps well. His head is of good size, and his body well developed.

I submit the questions: What is the cause of the periodicity in this case? Is it connected with malaria? If so, why does it not yield to the most powerful anti-periodics?

The especial object of this article is to elicit comment on this singular case, in regard to its cause and treatment.

I have two melanotypes of the little boy; one taken on a day on which his eyes were affected, and the other on the following day.

The Clinique.

CHICAGO MEDICAL AND SURGICAL DISPENSARY.

Service, Prof. E. ANDREWS, Attending Surgeon.

Reported for the EXAMINER.

Lithotomy.—At my last clinical lecture, I sounded in your presence, a patient for calculus, and discovered a stone which I judged to be somewhat over an inch in diameter. To-day I shall bring the same patient before you, and perform the operation of lithotomy, or in solid Saxon words, "cutting for stone."

The first thing to be considered in relation to this operation, is the preparation of the patient. For this purpose you will first consider his general condition, particularly as to the presence of any aplastic diathesis. Experience shows that there is comparatively little danger of an acute plastic inflammation of fatal severity, hence, it will seldom be necessary to prepare

the patient by reducing measures, such as purgatives, mercurials, and venesection; but on the other hand, there is great danger of an aplastic diathesis, which prevents the rapid gluing up and glazing over of the areolar interstices along the wound, and hence, allows a fatal infiltration of urine.

The most unmistakable sign marking the presence of this aplastic diathesis, is the aplastic inflammation resulting from any little pimples, scratches, or cuts which the patient may have. If any of these be present, and they show an unusual tendency to a weak suppuration, and an indisposition to heal readily, it is a bad sign, one which requires treatment before an operation is ventured on, for in such a diathesis the occurrence of urinary infiltration is greatly to be feared.

The best medicaments for the aplastic condition are the tonics. The patient should be fed liberally upon fresh meat and other substantial diet, and take per chloride of iron and quinine, freely, until the diathesis is thoroughly changed.

There are some neglected children in whom the presence of the stone keeps up incontinence of urine, by which their clothing is kept foul and their bodies made constantly to absorb ammoniacal and other effluviæ, thoroughly impairing the plasticity of the blood. In such cases it will be best to put the patient into a course of thorough cleanliness, where he will have the purest of fresh air, as well as tonics, for two months before an operation is ventured upon. In doubtful cases I would even test the patient's plasticity by making some slight incisions upon the thigh, and watching their appearance during the cure. It may be well to remark here, that it is not the reddest faces which mark the best constitution for operative purposes. The clear but solid white skin, such as is often seen in rheumatic patients, is a far better indication to a surgical eye, than the spongy, juicy redness of a toper's flesh.

Before the operation it is requisite to clear out the patient's rectum with an enema, otherwise the distention of that passage may bring its circumference in the way of the knife.

For the operation, you need four assistants, although you can get along in an emergency with two. One is to give the

anæsthetic, one is to hold each thigh, and the fourth holds the staff. The latter should, if possible, be a surgeon, or at least, a very cool, intelligent layman.

The instruments required are, a catheter, a grooved staff, a sharp pointed scalpel, a straight bistoury, or a gorget, suitable forceps, and a tube to insert into the bladder, after the operation is over. You also want a syringe to wash out the bladder, and the usual supply of sponges, needles, ligatures, etc., to be used in case of hæmorrhage.

I will now direct the anæsthetic to be given, and as soon as the patient is under its influence, lay him upon this table, with his feet towards a strong light. We will now tie his hands securely to his ankles. This procedure can be dispensed with, but it is best to retain it, as at the critical moment of the incision into the bladder, any sudden motions of the patient might endanger his safety.

The hips are now drawn to the edge of the table, and I proceed to introduce a silver catheter into the bladder. The object of this is twofold. First, we wish to ascertain at the last moment that the stone is still there. This may strike you as a strange precaution, since we distinctly felt it and heard it click at our last sitting; but, gentlemen, I tell you some of the most distinguished surgeons in Europe have had the mortification of cutting into a bladder and finding no calculus, though they distinctly felt one at a previous examination. I can only account for this by supposing that the concretion had crumbled to pieces, and been discharged in the interval.

However this may be, surgeons are now cautious in the matter, and the rule is, that if we cannot feel the stone after the patient is actually on the table, we must defer the operation. Having introduced the catheter, I feel the same object as before, and as I percuss it, you distinctly hear the click, so the stone is doubtless still present. The second object of introducing the catheter is, that we may fill the bladder with warm water, and distend it so as to facilitate the operation of cutting into it. This being done, I will now introduce this grooved staff, and deliver it to the assistant to be held steady.

The staff must be held with the point well in the bladder, and the assistant must on no account, forget himself in that respect, for if he allow the point to draw back and escape from the canal after the urethra is opened, it is often nearly impossible to re-introduce it.

The next step is, to make the incision, which in this case we will do by what is called the lateral method. I first feel for the left *tuber ischii*, because along the inner border of this bone runs the internal pudic artery, which must not be cut. There are three main points to be avoided in the incision. One is the bulb of the urethra, or more accurately, the posterior part of the corpus spongiosum; the next is the rectum; and the third is the pudic artery. Between these three we have a sort of triangular space, within which an incision may be made down to the membranous portion of the urethra, without wounding any important organ. Placing, therefore, the point of my scalpel on the mesial line about an inch in front of the verge of the anus, I enter it well through the skin into the superficial fascia, and carry it backwards and outwards to the patient's left, towards a point between the anus and the *tuber ischii*. In this direction we shall avoid wounding both the latter organs. This first incision should be made pretty long, as the tissues of the perineum contract very much after cutting, owing to the presence of the dartoid tissue in portions of it.

The first incision being made, I will next deepen the anterior portion of it by dissecting carefully forwards and upwards toward the membranous portion of the urethra. At this stage of the operation, you will commonly cut the transversalis artery, which, if it does not cease its hæmorrhage by a little compression or torsion, may be tied. I am now able to feel the bend of the staff, and to distinguish the groove, into which I press the nail of the index finger. Now taking the scalpel again, I carry the point along the back of the finger, and follow the nail into the groove of the staff, cutting open the canal for about a third of an inch. Still keeping the finger there as a guide, the next step is to take a probe-pointed scalpel or straight bistoury, and placing the point of it in the

groove, turn the edge to the left of the patient, and a little backwards, and push it into the bladder. The entrance will be known by the cessation of resistance, and by a gush of urine. In this step it is not desired to cut the prostate entirely through, lest you lay open the areolar spaces of the pelvis to urinary infiltration, but only to notch the gland freely, so as to allow the introduction of the finger. Withdrawing the bistoury, you insert the finger along the staff, using it as a wedge to enlarge the opening in the bladder, and feel for the calculus. Next, withdraw the staff and insert through the wound a pair of lithotomy forceps, carrying them along the finger as a guide. If you have contrived to retain hitherto most of the urine, it will be all the easier to seize the stone, which is the next step to be taken. By separating the blades freely, the calculus will generally roll between them and may be securely seized. After grasping it, there are two points to be attended to: first, that we do not grasp with it a fold of the bladder; and second, as calculi are often elongated, that it is not seized crosswise. That the bladder is not seized, may be ascertained by the finger, and by trying whether the forceps can be rotated on its axis easily. To ascertain that you have seized the stone endwise and not crosswise, feel the position of it by the finger, and if necessary, loosen the hold a little and rotate it into the proper position. If the calculus is a small one, it may be brought out in any position; if large, draw it gently and carefully down, much as you would extract a fœtus with obstetric forceps. Thus you see, I bring out the object which is oval in shape, and apparently an inch and a half in length.

The next step is to ascertain whether there are any more calculi present. With this view, I explore first with my finger, and next with an explorer or large steel sound. Finally, we will wash out the bladder by throwing in a copious stream of warm water with a syringe, to wash out any small fragments or clots of blood that may remain.

The great danger after this operation, is that of infiltration of urine into the areolar spaces of the pelvis. As a partial preventive, we will insert this silver tube through the wound

into the bladder, and retain it there for thirty hours. The object is to carry off the urine in that way, until the effusion of plastic lymph has so glazed the surface of the wound as to render the infiltration impossible.

The mortality of this operation in European hospitals is very great; so much so, that one scarcely sees how it is justifiable to perform it there. In this western country, however, in private practice, the risk is much less, being, in a selection of favorable cases, perhaps one death in twenty, and one in ten or fifteen of all cases, taken promiscuously. There are many points of great interest connected with the pathology and treatment of this disease, which I have no time at present to detail, but must defer them to another opportunity.

NOTE.—This patient was under the care of Dr. H. Wanzer, originally, and attended by him after the operation. There were no untoward symptoms in the case. After five days the urine began to flow in its natural channel, and the boy recovered in the usual time.

Correspondence.

MILK SICKNESS.

TO THE EDITORS OF THE CHICAGO MEDICAL EXAMINER.

GENTLEMEN:—The letter on "milk sickness," which I send you (for extract or comment in the MEDICAL EXAMINER, if you see fit), is so nearly like my own deductions in its facts, that I deem Mr. Fisher worthy of credit in his hypothesis,—though he submits his remarks to the State Agricultural Society, through my son, Robert, and not to the Faculty, as you will see. While a member of the State Agricultural Board, I made inquiries of intelligent stock-growers, practically acquainted with "milk sickness," and nearly all the facts I then gathered, are repeated in this letter.

Robert Kennicott, while in the southern part of the State, collecting specimens of natural history, ascertained the existence of *cobalt*, in some badly infected districts, but finding no traces of this mineral elsewhere, in localities where the disease existed, he did not publish his discovery.

I have been inclined to believe the "milk sickness" dependent on local miasmatic influence and unwholesome water, rather than any known and tangible mineral or vegetable poison. I have reliable information of the existence of "milk sickness," to an alarming extent, at one time, only forty or fifty miles southwest of Chicago; but never north of there,—while the *cicuta* was once very abundant in the prairie sloughs of this county, and is still plentiful hereabouts, though not where cattle drink. Any remarks from your pen would, I am sure, be welcome to reading stock-growers, in the few localities of this State where cases of this inexplicable affection still occur.

Your friend,

JOHN A. KENNICOTT, M. D.

THE GROVE, August, 1861.

DEAR SIR:—I am a stranger to you, but your public acts are familiar to me, in consequence of which I have taken the liberty of addressing you on an important subject, and so, through your assistance, bring the matter before the State Agricultural Society.

I desire to call the attention of the Society to the fact, that there exists through the Western States, a disease, known by the name of the "milk sickness." Whole families have, in a few days, been consigned to the grave; and yearly we hear of numbers dying with this disease. The "milk sickness" proceeds from the use of cow's milk, taken into the stomach as food. The milk being poisoned from some cause unknown and mysterious. In my opinion, it would not be violating the rules of the Society, to investigate this subject fully, and ascertain, for certain, the cause of the "milk sickness," and how to avoid it. In addition to the hundreds of the human family who sicken or die yearly of this disease, vast numbers of cattle

die, or are infected with the "trembles" so much, that it requires a long time for them to recover; and it is a matter of doubt, whether they ever become sound and healthful for either beef or milk.

In 1836, I became a resident of the State of Indiana, and lived on a branch of the White Water, in a settlement where the "milk sickness" prevailed; several persons died with it, and many were sick, who recovered; large numbers of cattle also died. I resolved, if possible, to find out the cause of the malady; I questioned all the intelligent settlers, and the physicians, in relation to it and its causes. The doctors said it was caused by using milk from cows that had eaten some strong narcotic; the farmers had various opinions about the matter; some thought it was caused by the poison vine that adheres to the trees, some the poison oak, and some were sure that it was a poison dew on the grass; but the larger portion believed it was produced by some unknown kind of weed, and others again, were certain that it was produced by the cattle drinking water out of springs containing poison, and they were under the impression that the poison proceeded from some mineral substance. I have frequently visited the localities where it was said, if cattle run, they would take the "trembles," and numbers die, and to use the milk from cows that fed there, would produce the "milk sickness." In all these localities, I found springs running over large pieces of wild, uncultivated land, producing swamp and damp ground. On this wet land, little else grew but the *cicuta*. The *cicuta* has large, fleshy roots, from which the stem is easily detached; the cattle in dry times, resort to these springs for drink, and tramp off the roots, which decay, and impart their poisoning substance to the water; the impressions made by the cattle's feet, in the wet land, become filled with water, and they drink this water, saturated with the decomposed *cicuta* roots; death or disease of some kind must inevitably follow. On cultivated grass, or prairie land, the roots of the *cicuta* are imbedded in the turf, and will not come up by taking hold of the top. The top contains but little poison, and the cattle are seldom injured by feeding in the cultivated land, or in the

prairies. In woodland, where it is wet or moist, the *cicuta* is found with its roots slightly covered with rotten leaves, and light earth; these are extracted readily, and are eaten with the tops, by the cattle, and this must produce sickness or death. In the woods the *cicuta* seldom seeds, grows tender, and is not rejected by cattle. A farmer in Indiana, said he was sure that the water of certain springs was the cause of the "trembles" in the cattle. He had a large enclosure of deadened timber; in one corner of this enclosure, there were two springs; when the cattle drank from these springs, which they resorted to when it became dry, "they took the trembles," and some died. On inquiring, I ascertained that there was considerable swamp about these springs, and nothing grew there but the wild parsnip, (the *cicuta* is known by the name of wild parsnip, water hemlock, wolf's bane, etc.,) and that as "thick as the bristles on a hog's back." I intimated to him, that it might be the "wild parsnip" that produced the "trembles." "No," he said, "it would kill sheep, but would not hurt the cattle;" he was certain the water, and nothing but the water killed the cattle, because he had fenced up the springs, and kept the cattle from the water, and after that he lost no more.

I have seen in swampy and wet places, large quantities of detached roots of the *cicuta*, in every stage of decay, the water colored by the decomposed roots, and this water was drank by the cattle. In all places where I found *cicuta* in this condition, "milk sickness" prevailed. After this, I resided in Ohio, on the East Fork of the Little Miami, near where the inhabitants had suffered severely from the "milk sickness"; five in one family had died with it, and a number of cattle had died also. I lived in the neighborhood eleven years. I made examinations of the locality where it was supposed that the cattle obtained the article that produced the disease. When I first visited the country, I saw large quantities of the *cicuta* in the damp parts of the wood; and about the springs, it grew in vast quantities. The trampling of the cattle killed it to a great extent about the springs, and that

which grew in the woods, was pulled up and eaten by them. In every year's visit, I found the *cicuta* less plenty, and at the end of ten years, very little was to be found. In proportion as the *cicuta* disappeared, so did the "milk sickness" and the "trembles" in the cattle.

If you feel disposed to have the foregoing subject investigated by the Illinois Agricultural Society, I should be pleased to hear from you as soon as convenient.

Yours, very respectfully,

GEO. FISHER.

Morris, Grundy Co., July 29. 1861.

To Dr. R. KENNICOTT.

Selections.

HINTS TO ARMY SURGEONS.

By CHARLES T. JACKSON, M. D., Boston.

From the Boston Medical and Surgical Journal.

It may be thought impertinent, in one who is exclusively a chemist, to venture any suggestions for the consideration of surgeons, now employed in the armies of the United States; but it should be remembered that I have spent much of my life in the study of medicine and surgery, and have had uncommonly good opportunities for observing military surgery in France, after the revolution of July, 1830, and in the insurrection of June, 1832. This must be my apology for obtruding a few remarks, which, though they may not be new to many surgeons, will perhaps be useful suggestions to some, and especially to those who have heretofore had no opportunities for improvement in this kind of knowledge.

Gun-shot wounds, I know, have much changed in character since the introduction of improved projectiles—the minié and slug balls in particular; and therefore improved instruments, adapted to the extraction of such balls, and the fragments of bone, should have been prepared. The old-fashioned ball-forceps, adapted to the extraction of a round bullet, are entirely unfit for the extraction of a minié ball or conical slug. Charrier's polypus forceps are vastly preferable; for, instead of dilating at the orifice of a wound, where it is most tender,

they actually, for the diameter of any bullet, diminish as to the space they occupy, owing to the crossing of the blades below the fulcrum. This instrument is the best I have ever used for the extraction of a ball, or of fragments of bones, bits of cloth, and other foreign bodies carried into a wound. They are strong enough, and yet are light and portable, serving in place of the common dressing forceps, for all common operations, while they are amply sufficient for the removal of a ball. They are also so light, that they will, in most cases, serve in place of the probe, in explorations, and are long enough to reach to any required depth into a wound. I therefore recommend them to all army surgeons, who, if they are not supplied with them now, will find them to be an exceedingly valuable addition to their operating or dressing cases. I brought from France the first pair of these instruments ever seen in this country, and Dr. John C. Warren borrowed them and had others made here for his own use, and for the Massachusetts General Hospital.

When a round ball strikes a cylindrical bone, it simply breaks it, and not unfrequently the ball itself is split into two pieces, or it is flattened and glides off into the soft parts. The round-ball forceps are not fit for the extraction of the fragments of lead, nor of the comminuted fractured bones. If a round ball strikes a bone, having in its interior a mass of cancellated structure, such, for instance, as the condyles of the knee-joint, the bone is not fractured into fragments, but the ball penetrates the hard shell on the exterior, and beds itself in the cancellated bone, if it does not pass entirely through the joint. If it does pass through, the orifice of exit of the ball will be much larger than where it entered, and there will be some splinters of the hard shell of bone torn off, and the proportion of these fragments will be greater, in direct ratio to the diminished velocity of the ball.

The minié ball, when it strikes the shaft of a long cylindrical bone, generally splits it for a considerable distance, especially if it strikes the bone fairly in the middle. The ball itself is more rarely divided, though it is flattened and compressed sometimes on its sides, where it is not supported, owing to its cavity at the base. If it strikes the side of a bone, it glances to one side very strongly, and will not be found in the direction in which it entered, and it is often very difficult to find where it is lodged, until inflammation reveals the spot.

In order to compare the effects of the common round and the conical minié ball, I took eight one inch pine boards and nailed them together, and then fired the two kinds of balls through the mass of board from a rifled carbine. The round ball made a hole gradually enlarging as it entered, and splint-

ered the board somewhat; but the minié ball entered the first thickness of boards, making a smooth round hole, but split the further half of them all to pieces, tearing off, as it passed out, large splinters of the wood. The effect of a ball, the force of which is partially suspended, will evidently be more destructive then when having its full velocity. It is observed, too, by all who have used a minié rifle, or any of the breech-loading guns, that in close action the men are more likely to overshoot their adversaries, than they would be if they employed the common musket or rifle, not prepared for long range. Indeed, many of the breech-loading guns I have seen, have no provision for sighting at near objects, and it is difficult to hit a mark nearer than one or two hundred yards; therefore soldiers really run much less risk, in charging boldly upon troops employing these weapons, than by carrying on a distant fusilade.

Leaving this subject, let me ask our army surgeons to prepare statistical tables of their operations in which they use anæsthetic agents; whether ether, chloroform, or the mixture of these two anæsthetics. It is very desirable that we should have the means of making a careful comparison of the effects they may produce on the healing of wounds. Ether is known not to delay or prevent healing by first intention. Is it true, also, with regard to chloroform?

We wish, also, by an extensive tabular statement of cases, to compare the mortality of operations under these two anæsthetics, and also with those in which four measures of ether and one measure of chloroform are employed; this being the preparation I have recommended for army use, in case the surgeons cannot carry so bulky an article as ether.

The subjoined table of a few cases, from *Benisson's Méthode Anesthésique*, will perhaps serve as a model for the record, and those who please may add more side columns for such other remarks as they may wish to enter on the record.

TABLE OF CASES.

No.	Date.	Nature of Operation.	Sex.	Age.	Anæsthetic.	Healed.	Died.
	1847						
1	March 4	Amputation left arm....	man	43	Ether.	In 20 ds.	
2	" 22	" right leg....	man	30	"	23 ds.	
3	April 25	" left thigh....	man	22	"	15 ds.	[ritonitis
4	May 3	Lithotomy by perineum	boy	11	"		17 d., pe-
5	" 28	Extirp. rt. br'st; cancer.	wom.	59	"		5th d.,
6	Aug. 12	" cancer rt breast	wom.	30	"	12 ds.	pleurisy
	1848						
7	Aug. 3	Amputation right leg....	man	36	Chloroform.	15 ds.	
8	July 10	" " arm...	man	28	"	20 ds.	
9	Aug. 3	Extirp cancer rt breast..	wom.	29	"	1 mo.	
10	March 3	Cancer of the lip, tumor involving the sub-hyoidean region.....	man	40	"		15 ds. after opera.

Remarks may be added in full, by reference to the numbers, so that all the particulars which cannot be conveniently tabulated may be introduced; such as a description of the disease for which the operation was performed, the condition of the patient, the time which the operation required, the treatment after the operation, and, in case of death, the opinion of the surgeon as to the cause.

ON THE THERAPEUTICAL EMPLOYMENT OF OXIDE OF ZINC.

By S. WATERMAN, M. D.

From the American Medical Monthly.

Oxide of zinc is known to be a powerful therapeutical agent, yet its peculiar mode of action upon the human organism, and the various diseases in which it finds a rational application, are by no means yet fully understood. In the United States Dispensatory, the account given of this article, is meagre and unsatisfactory. Some of the European Pharmacological works give a more minute description, but also without, by any means, exhausting the subject. I shall probably not state much that is new to *all* the readers of the *Monthly*, but from the observations which I have had the opportunity of making, I feel called upon to direct the attention of the profession to this medicine.

Oxide of zinc exerts a powerful sedative or soothing influence over the brain and the ganglionic nerves. Whether this influence is produced by direct action of the zinc upon the brain; whether it acts by a sort of revulsive influence, by transferring cerebral irritation to the plexus of the stomach, it is not possible as yet to tell. Its operations seem to be exceedingly mild, and free from after effects, such as are observed after the use of opium, and the kindred narcotics. In all cases where these narcotics are contra-indicated in diseases of the brain, zinc may be given, and in many of these cases its effects are positive and lasting; so that I have often considered it worthy of the title of "the opium of the brain." Its ability to soothe vascular excitement, dependent upon cerebral and nervous irritation, cannot be well doubted; whilst it possesses equal power to allay and calm the irritation of the brain and ganglionic nerves, unaccompanied by inflammatory action of these tissues.

It has proved itself useful to a limited extent, also, in in-

flammation of the brain and its membranes, but in a manner less marked and positive; and I think it, therefore, les sworthy of confidence in these diseases.

From its action as described above, it is rational to expect beneficial results from its exhibition in the following diseases; and these expectations are borne out by actual trial and observation:

1. In *delirium tremens.* Indeed when all other remedies seemed to fail—when opium and its kindred narcotics had been unable to make any impression, and a fatal issue seemed unavoidable, oxide of zinc has in several instances rendered me such signal service, as fully to justify the confidence I feel in its therapeutical power. It need not be given in large doses even here; two or three grains every two hours are sufficient. It may be combined, if necessary, with opium or other remedial agents; and its use should be continued for some time even after the delirium has been overcome.

2. In *eclampsia infantilis*, after the fits have been broken by the free use of chloroform, zinc will be found a very serviceable agent to control the cerebral and nervous agitation, which almost always still harasses the little patient for a short time. I have often combined oxide of zinc in grain doses, with calomel, digitalis, and pulv. scillæ. Its effects have been thus most gratifying, and the impartial practitioner can certainly readily verify the truth of the observation. As in the former disease, its use ought to be continued after the convulsions themselves have disappeared.

3. In the *eclampsia* happening during pregnancy or labor, or menstrual irregularities, oxide of zinc acts beneficially upon the sensorium, with or without the administration, at the same time, of opium and calomel; especially in those cases where the convulsions originate from a high state of nervous sensibility, as is the case in subjects to hysteria, in its various forms. After the employment of chloroform, zinc will be found to exert its sedative influence in a most positive manner. I have given two or three grains per dose, every two hours, and would not advise a larger dose. In convulsions produced by plethoric habits, its effects are less reliable; whilst in convulsions arising from uræmic toxication, its effects have not been sufficiently tried to warrant any positive statement in its favor.

4. It will be found a most reliable agent in the various forms of *hysteric convulsions*, depending, as they do in most cases, upon inordinate action of the nerves and their centres. It is in these cases that its influence over the plexus of the stomach is most strikingly verified.

5. In the *exanthematic diseases*, when the eruption is accompanied by cerebral irritation, and even by convulsions, oxide of zinc has long been known to exert a soothing effect upon the nervous centres, and has been used by the most experienced European practitioners.

6. I have treated a few cases of *epilepsy* and a few cases of *chorea* with zinc. I have not had sufficient opportunity to watch its influence, but believe it to be, as stated by various practitioners, from time to time, for more than half a century, a very efficacious remedy in some cases; more especially, it is true of chorea than of epilepsy.

7. European writers recommend it as an excellent remedy in asthmatic difficulties and whooping-cough; but I have no experience to offer on this head, nor on the three following.

8. In England and in this country it has been very highly extolled against the night-sweats of phthisis, and as useful in all cases of profuse perspiration.

9. It has also been well recommended against worms, and still more against chronic dysentery.

10. To complete the list, I must yet mention that it is reported to have cured some of the most obstinate cases of intermittent fever.

The external use of oxide of zinc—unsurpassable in its satisfactory results, as it sometimes is—seems to be well enough understood by the profession generally.

In the estimate I have placed on the oxide of zinc, I have relied strictly on the results of my own practice. I have the notes of a number of cases in point, which I withhold from publication, only not to increase the length of this article; and I urge on all physicians to contribute their quota to our knowledge on the subject, to the end that its physiological effects and therapeutical uses, can at least, be definitely determined.

A Correspondent of the N. Y. *World* says, of the wounded in the Washington hospitals, after the Bull Run affair, that in consequence of the comparative *state of nature*, in which they lived for months previous to the action, the cases which would otherwise have been obstinate or incurable, are now in a rapid state of convalescence; in fact, to use the attending physician's words, "their wounds heal like those of wild beasts."

HAMMOND ON CHANCRE.

From Cleveland Med. Gazette and American Med. Times

From several lectures delivered at the Baltimore Infirmary, by Prof. Wm. A. Hammond, we condense the following statements in regard to the nature and treatment of chancre:

There are two species of venereal poison: one giving rise to a simply, non-infecting, soft chancre; the other causing an indurated one, liable to be followed by constitutional syphilis. There are also two kinds of virulent gonorrhœa, corresponding to the kind of venereal poison which comes into contact with the mucous surface of the urinary passages. The two poisons are by no means convertible into each other, but are essentially distinct, each kind of chancre inoculating with its own specific poison, and causing a sore of the same character as the parent chancre.

The soft chancre has never an indurated base; has perpendicular edges, a rough, dirty gray surface; discharges pus generally of a healthy character; enlarges to the size of a dime, then cicatrizes and heals in about four weeks. It is a local disease, never infecting the general system; the secretion from it may be inoculated, as long as the process of reparation has not advanced far. But this chancre is pre-eminently liable to complications: inflammation from irritating substances improperly applied (corrosive acids, nitrate of silver, sulphate of copper, etc.), or from individual causes, such as debility, dram-drinking, or the inordinate use of mercury, or from accumulation of the discharge behind the prepuce, or mechanical irritation, friction against the clothing, or during coition. Ulceration may occur, even without increased inflammatory action. Phagedena is due to constitutional causes, intemperate habits, excessive sexual indulgence, bad food and air, but above all, to the influence of mercury. The bubo occasionally accompanying soft chancre is either a simple symptomatic adenitis, and non-virulent, or caused by the absorption of pus, then always of a specific character, suppurating, and furnishing an inoculable secretion.

It is always desirable to destroy the specificity of the chancre at an early stage. Of all the caustics recommended for that purpose, none is so manageable, and at the same time so effective, as the paste of sulphuric acid and charcoal, recently recommended by Ricord. Take strong sulphuric acid and mix finely powdered charcoal with it, so as to obtain a paste, which is carefully applied over and around the chancre.

In three or four days it falls off, with the slough it has produced, leaving underneath a healthy sore. The pain caused by the application, may be mitigated by opium. Where the paste cannot be employed, as in the uretha or rectum, nitric acid should be used, and a dossil of lint, thoroughly soaked in olive oil, be inserted afterward. A soft chancre in the process of healing, requires astringent or slightly stimulating applications, one of the best of which is a weak solution of tannin in water. Sulphate of zinc, acetate of lead, nitrate of silver, may also be employed, in weak solution, keeping the sore constantly moist with them. A constitutional treatment is rarely required. The bowels should be kept open, and indigestible food avoided, but no other special precautions are necessary. Wine, coffee, beef-steaks, cigars, etc., ought not to be forbidden to patients in the habit of using them. The most perfect cleanliness is desirable.

When inflammation is present, emollient applications, such as mucilage of flax seed, warm water, poultices, etc., are to be used. One of the best and most elegant articles is a cataplasm of chamomile flowers, changed frequently. Perfect rest in bed, a mild purgative, and a grain of opium every four or five hours, complete the treatment. The tincture of the chloride of iron, in doses of from thirty to forty drops, four or five times a day, is often of decided benefit, especially when there is a tendency to gangrene. The abstraction of blood is hardly ever required, while stimulants are generally of good service.

When phymosis or paraphymosis results from the inflammatory engorgement, warm applications and a soothing treatment do all that is necessary. Should, with phymosis, gangrene threaten, run a director under the prepuce and slit it open with the probe-pointed bistoury, till the constriction is removed. In paraphymosis, if mild attempts at reduction fail, and mortification threaten, the stricture should be divided by running a straight, sharp-pointed bistoury under it, and cutting outward.

For excessive ulceration, the sulphuric acid paste is generally the best application, with a grain of opium night and morning, internally. If the sore produced by the escharotic shows a tendency to spread, strap it with adhesive plaster, and give a chalybeate with opium.

The serpiginous ulcer is difficult to cure. Fowler's solution internally, and arsenious acid, with sugar sprinkled over the sore daily, frequently cause a very favorable change. Iodine, however, gives more satisfaction. Give Lugol's solution internally, with some preparation of iron, or with cod-liver oil,

and apply the tincture to the ulcer and neighboring parts every day. With this treatment the most obstinate serpiginous ulcers rarely fail to improve and heal.

Against phagedenic chancre, the sulphuric acid paste is the best remedy, with good diet, plenty of fresh air, and some preparation of iron. The potassio-tartrate seems to be almost a specific. Dissolve one ounce of it in ten ounces of water, and give of this, half an ounce three times per day, keeping at the same time, the diseased part constantly moistened by it. Some cases not early attended to, resist all treatment.

Bubo from simple adenitis, advances slowly, is not painful, and soft. Should it break, or be opened, the pus is discharged without inoculating the edges of the wound. The virulent bubo is of rapid growth, suppurates early, and is accompanied with considerable pain; the integument covering the abscess, if not punctured, sloughs, leaving a true chancre, with inoculable pus. This chancre in the groin is more liable to phagedena than the original sore. The simple form is to be treated with discutient lotions, containing sub-acetate of lead or chloride of ammonia. These may be conjoined with pressure by means of a graduated compress, held in its place by a proper bandage, or by collodion painted over. The tincture of iodine, or the ointment, are also valuable applications; still better is a solution of iodide of potassium, twenty grains, and iodine forty grains, in one ounce of glycerine; or the iodide of lead ointment may be used. If dissolution is not effected by these means, an early incision should be made, or rather, several small setons be passed through the back of the swelling, followed by pressure. Pyæmia may result from too large an incision; a tedious recovery certainly does.

In the virulent bubo, suppuration must be hastened by chamomile cataplasms, or other poultices, and as soon as possible the abscess should be laid open by a long incision. The remaining ulcer is treated with the escharotic paste, etc., in the same manner as the original chancre.

The indurated, infecting, or true syphilitic chancre, appears but once in a lifetime, on the same individual, and the secretion from it cannot be successfully inoculated in the body of the patient. When this form has commenced to heal, it, like the first, loses its virulent characteristics entirely. An indurated bubo is an almost constant companion, but may, in some cases, be prevented by a timely administration of mercury. Secondary symptoms may ensue without the presence of a bubo. A characteristic sign of this kind of bubo is the enlargement of all the lymphatic glands around the infected one.

The principal indication of the treatment, is to prevent infection, the cure of the local trouble being comparatively a small matter. If seen in the first stages, say within the first six days from the appearance of the pustule, the indurated chancre should be destroyed by the sulphuric acid paste. After cauterization, the most simple applications are all that is necessary. The aromatic wine acts very well; a weak solution of tannin is equally efficacious. Should the chancre be healing, or have ceased to progress, cauterization is useless and improper. In such cases, commence the local treatment with the solution of tannin. Nothing else is required locally. The efficacy of internal remedies in accelerating the cure of indurated chancre is doubtful, although they may be necessary for the purpose of preventing infection, or destroying the morbid matter circulating in the blood. Indurated chancres heal just as soon without mercury as with it. Under the influence of this agent, the induration disappears sooner than if no mercury is given, but the ulcer is just as long in healing.

Book Notices.

A Treatise on Diseases of the Joints. By Richard Barwell, F. R. C. S., Assistant Surgeon Charing-Cross Hospital, etc. Illustrated by Engravings on Wood. Philadelphia: Blanchard & Lea. 1861.

Barwell's name will be recognized by the reader familiar with the periodical literature of the profession, as one of the most earnest and original monographists of the past half-dozen years. His contributions to the knowledge of the physiological and pathological anatomy of the tissues of joints,—elaborate and valuable in themselves,—were, however, but preliminary steps in the accomplishment of his object, and "were not undertaken," as he says, in his modest preface, "so much from love for that sort of work as from a perception that certain links must be supplied, certain entanglements unravelled, and error, if any existed, corrected."

The present volume forms a land-mark, so to speak, in the improvements which have been made in this branch of surgery; clearly and practically arranging and defining the ac-

quirements and limits of our present knowledge, the records of which, have existed, heretofore, only in scattered essays and isolated papers, mixed up with somewhat of downright error, not a little that was empirical, and much that needed the further test of time and enlarged experience to warrant its acceptance. The work is divided into two parts, of nine chapters each; the first chapter, devoted to the physiological anatomy of the joints, is valuable and interesting, aside from its clear, succinct treatment, on account of the peculiar views of the author on some points, differing from preceding writers. Among these, his description of the articular lamella (pp. 25, 26,) views which met much opposition when first broached, in 1859;—his exposition of the arrangement of the synovial membrane upon cartilage (p.p. 29,30;) his puncture of Weber's synovial vacuum theory; and his reconciliation of Quekett's and Bowman's conflicting representations of the yellow fibrous tissue, are some of the more important. It is hardly necessary to observe that his statements are as well sustained and as carefully, though boldly made, as in the original papers, the substance of which this chapter embodies.

Chapter II. is an exhaustive treatment of *Acute Synovitis*, sixteen pages on its pathology, seven on the symptoms, and ten on the treatment,—abundantly supplied with clinical illustrations. Mr. BARWELL "cordially commends the value of" free incisions into suppurating joints, where the wound is small, or there is no wound,—not simply "to allow shreds of cartilage to escape" as advanced by Gay, but because "a joint once suppurated, has lost that sensitiveness to the contact of air which it normally possesses; it is an abscess, and one cause of the great constitutional disturbance produced by the disease, is confinement of matter deep among bones and tough fibrous structure. Therefore, if a *depending* part of the joint can be in any way reached, it should be wisely incised."

Partly from its bearing upon the chronic form, *Acute Rheumatism*, though not legitimately within the surgical province, is next treated of; partly from the above reason, but also, and not less, we suspect, "because a very high authority [Dr. Todd], has recorded his opinion, that the local affection of the

joints is not inflammatory." *En passant*, we may mention a trait which impresses us not less forcibly than our author's sturdy Saxon sense, plain, direct, and straightforward,—that is his national combative proclivity. Not that we mean by this to imply that he seeks for argument and contradiction; but whenever he meets what he conceives to be error, he straightway attacks it, and usually, as in the present instance, with pronounced success.

Pyarthrosis,—purulent absorption, pyæmia, or a half-dozen other synonyms—is the subject of the fourth chapter, embracing a consideration of the various theories of its obscure pathology, and a résumé of the unsatisfactory results of experiments. Barwell considers the disease largely resultant from a peculiar zymotic influence, affecting the blood, and relies on quinine mainly in its treatment. The chapter on *Strumous Synovitis*, which is the next in order, is one of, if not *the* most interesting in the volume. No sketch can do anything like justice either to the chapter or the book itself,—a fitting review of which we do not attempt, but hasten to give the headings of the remaining chapters: Chapter VI.—*Rheumatic Synovitis.* Chapter VII.—*On Some Other Forms of Chronic Synovitis*—syphilitic, gouty, simple. Chapter VIII.—*Hydrarthrosis*,—pathology, symptoms, treatment, cases. Chapter IX.—*On Loose Cartilages in the Joints.* Part second is devoted to the consideration of *Diseases Commencing in the Bone*,—the first part of the volume having embraced, as will be seen by the above titles, only those diseases commencing in the synovial membranes and sub-synovial tissue. For greater accuracy and clearness, Mr. Barwell designates inflammation of joint-bones *Articular Osteitis*, and divides it into two kinds,—the acute and the chronic, after the German method. Chapter X. treats of the first division, and the succeeding chapter, of *Strumous Articular Osteitis*,—an essay rivalling in value and completeness anything we have ever read on the subject. *Chronic Rheumatic Osteitis*, *Inflammation and Degeneration of Cartilages*, *Hip-Joint Disease*, *Affections of Synovial Sheaths and Bursæ in the Neighborhood of Joints*, *Restoration of Mobility and Conformity to Crippled Joints*, and the

Removal of Diseased Joints, form, respectively, the subjects of the remaining chapters.

Where there is so much that is meritorious, we have no wish to weaken our approval by censure or fault-finding. And yet we could wish that the distinguished author had shown less cockneyism in his citation of authorities, made, as they are, to the almost complete exclusion of the American. Chapter X. betrays an ignorance of "the most elaborate and complete work on Surgery ever published in any country,"* only equalled by the almost total ignoring, in chapter XIV. (Hip Joint disease,) of such American authorities as March, Harris, Davis, Sayre, Andrews, Taylor and others, and their hip-joint splints,—to which, by the way, his own is decidedly inferior.

In succeeding editions of the work, which we have no doubt its intrinsic worth will soon necessitate, it will be the duty of the American publishers to submit its pages to the supervision of competent hands, who shall supply the deficiencies, and correct the errors we allude to. Its present handsome typographical appearance, and accurate illustrations, reflect credit on the enterprise and good taste of the publishers.

TREATMENT OF FRACTURES OF LONG BONES BY SIMPLE EXTENSION. BY JOHN SWINBURNE, M. D., ONE OF THE SURGEONS TO THE ALBANY CITY HOSPITAL. ALBANY: VAN BENTHUYSEN, PRINTER, 1861.

THIS is a pamphlet edition of the sixteenth paper, in the last volume of the *Transactions of the State Medical Society of New York*—for a copy of which we are indebted to the courtesy of the author.

DR. SWINBURNE'S views have been before the profession during the past three years or more, having been first presented at the meeting of the above Society in 1859; but Dr. S. has personally tested his plan during some thirteen years, in private and hospital practice. We think his *brochure* valuable, in that it will serve to direct the minds of those who read it, to the fact that much of the present bandaging and dressing is entirely unnecessary; and, which is far more important, that

*London Lancet, and Dublin Quarterly Journal of Medical Science,—reviews of Prof. S. D. GROSS' *System of Surgery*, 1861.

it persistently presses home the great central fact in the correct treatment of fractures, viz: *the absolute necessity of securing proper extension and counter-extension.* But the plan of treatment is, by no means, so novel and revolutionary as one would be led to believe from its title, or the discussion it has occasioned.

Briefly, the modes of treatment proposed by Dr. SWINBURNE, are as follows: *In fractures of the femur*, the patient is placed in bed, and a broad, well-padded belt, passed beneath the perineum and over the groin of the injured side, is fastened to the head of the bedstead—furnishing the counter-extension; while extension is made by the use of adhesive strips, attached to the leg, and fastened, by a cord, to the foot of the bedstead. The position of the foot is controlled by a strip of cloth or plaster, or by a bran or sand bag. Forty cases have been treated in this manner, in but one of which "was there visible shortening, nor was there any distortion of the thigh; no eversion or inversion of the foot. The average period of time during which extension was maintained was five weeks; and in the majority of cases, union was tolerably firm at the expiration of from fifteen to thirty days, according to the age of the patient and the nature of the injury." Of these cases occurring at all parts of the shaft and neck, some were oblique, some compound, some comminuted, and in one case four inches of the bone was crushed in fragments. "Two were cases where the thigh and leg were *both* fractured, and in *all* the results may be considered *perfect;* for where shortening only amounts to half an inch, it can be ascertained only by actual measurement. Of these forty cases, twelve were fractures within the capsular ligament, occurring in patients, most of them over sixty years of age, and all treated by this method of extension, with results much better than could be expected, and which it would have been in vain to expect under the usual treatment."

In fractures of the tibia and fibula, extension and counter-extension are made "through the medium of a delicate splint, and an equally delicate foot-piece,"—to all intents and purposes, a Desault's splint; though, where the seat of fracture

is near the knee-joint, the treatment is the same as in fractured femur. In compound fractures of both bones, the double-inclined plane or hinged splint, is preferred, to remedy the tendency of the superior fragment to anterior displacement; though other modes are used.

In fractures of the upper extremities, the principle involved is the same. In the humerus, simple extension is made by having a splint extending three inches below the elbow and the same distance above the shoulder. The elbow is secured to the lower part of the strip of board by means of adhesive plaster passed through an opening, while to its upper extremity it has fastened the extremities of an axillary belt. Lateral motion is to be prevented by the use of strips of plaster binding the arm to the splint. Fracture in or near the elbow-joint is treated by dressing the arm on a hinged-splint, whose superior extremity is furnished with an axillary belt, or is strapped to the arm with adhesive plaster. To the inferior extremity the hand is secured also by adhesive plaster, and sufficient extension and counter-extension is then obtained by flexing the arm at the elbow. The position of the hinge, above or below the elbow, regulates the seat of extension; if placed above, the extension is made between the elbow and hand, if below, between the elbow and the shoulder. Colles' fracture is treated by a splint extending from the point of the elbow to the metacarpo-phalangeal articulation, supplied with two compresses, corresponding to the concavities at the elbow and carpus.

We have not space for further detail, referring to the work itself for much that is well worthy of perusal; but merely add,—Dr. SWINBURNE's improvement deriving so much of its value from its total disuse of bandages,—the following remarks on this subject:

* * * There is no need of bandaging in the treatment of fractures at all, and the treatment is more speedy and comfortable to the patient without bandages than with them. I have now treated, without any bandages whatever, forty fractures of the thigh, in every portion of its shaft, simple, compound, comminuted, and intra-capsular, and with better results than would be obtained by splints and bandages. I

have treated over one hundred fractures of the long bones with no bandaging, and only dressing enough to perpetuate the extension, which, in my humble judgment, is much better than trying to force the bones to maintain their position by lateral pressure with bandages, compresses and splints.

If the source of irritation, (the fractured ends of the bones,) is removed by their reduction and maintainance by such means as will not obstruct circulation and cause infiltration and inflammation, the precautions as to bandaging are unnecessary. If bandaging, at the time of its application, does not produce the slightest constriction anywhere, the subsequent infiltration and inflammation of the tissues will soon make the limb an uncomfortable bedfellow, as every day's practice will sufficiently attest.

I think it is not the bandaging at the time that produces all the bad results we occasionally see; it is the subsequent swelling. I regret to say that the profession, sometimes, sacrifice everything to appearance. A beautiful dressing (with them) is synonymous with a good result.

Now, if there is no necessity of bandages in the treatment of fractures, why not dispense with them as much as possible, as they are painful and troublesome in their application, and in all the subsequent dressings still more so.

They constrict the limb, producing more or less mischief—1st, by the extra warmth of the parts; 2d, obstruction to circulation; 3d, difficulty of examining carefully the position of the bones; 4th, the trouble, pain and disturbance of the bones in re-dressings. Per contra, by the plan under discussion the limb is kept cool, is examined at will, and little constriction ensues. Hence, little or no pain is experienced during the process of reparation, and no disturbance caused by re-dressing.

THE MORBID EFFECTS OF THE RETENTION IN THE BLOOD OF THE ELEMENTS OF THE URINARY SECRETION. By WILLIAM WALLACE MORELAND, M. D., Member of the Boston Society for Medical Improvement; one of the Attending Surgeons at the Central Office of the Boston Dispensary, etc. Being the Dissertation to which the Fiske Fund Prize was Awarded, July 11, 1860. Philadelphia: Blanchard and Lea. 1861.

This Essay, originally printed in the *American Journal of the Medical Sciences*, is another of the very excellent and valuable contributions made to American medical literature, through the agency of the Fiske Prize Fund of the Rhode Island Medical Society. No branch of pathological investigation has been more assidously or enthusiastically cultivated

than this which Prof. Hammond styles *Urology*,—nor is there any which has better repaid the researches of the student, or thrown more light upon an all-pervading and powerful source of disease. What the stethoscope and the speculum have done for other organs, the test-tube and the microscope have accomplished for those equally important ones,—the kidneys, the great blood-depurators of the animal economy. They have furnished us a key to the many mysteries which envelope those diseases, resulting from a retention of the elements of the urine in the blood. They have extorted from the secretion the secret of its composition, and have enabled the physician to hold to strictest account these emunctories; so that their failure to deliver up in due proportion any one of its constituents, made manifest, rationally, by disturbance in some other organ, may be proved, physically, and with mathematical precision, by an appeal to the *experimentum crucis* of the acid and the lens.

Dr. Morland has here given us a condensed résumé of our present information on the subject; and, to the great convenience of those desireous of still more detailed and thorough knowledge, a most ample wealth of reference and quotation. The work is one, not admitting of further condensation or abridgement, from its already cyclopœdic brevity and character; we therefore, content ourselves with this notice of it, and recommend it to our readers for perusal. W. B. Keen, 148 Lake Street, Chicago.

The Pathology and Treatment of Venereal Diseases; including the Results of Recent Investigations on the Subject. By Freeman J. Bumstead, M. D., Lecturer on Venereal Diseases, at the College of Physicians and Surgeons, New York; Surgeon to St. Luke's Hospital; Assistant-Surgeon to the New York Eye Infirmary. Philadelphia: Blanchard & Lea. 1861.

Through W. B. Keen, 148 Lake Street, we are also placed in possession of this volume, whose receipt only, at this time, do we propose to acknowledge,—reserving for our succeeding number a suitable notice.

The same gentleman also sends us, for the publishers, Lindsay & Blakiston, Philadelphia, Wythe's *Pocket Dose and*

Symptom Book, and the *Physician's Visiting List*, for 1862. These little conveniences are so well and favorably known to the profession that we deem it only necessary to announce their publication. WYTHE's work is in its third edition, and contains the doses and uses of every officinal remedy and preparation; nearly every useful native medical plant, and a variety of remedies recently introduced to the profession. The part devoted to symptoms of disease, and the outline of General Pathology and Therapeutics, will be found useful by the student. The classification of the Materia Medica, the table of weights and measures, add to the value of the work, and render it a *vade mecum*, in which the most useful information is compressed into the smallest possible compass, for the benefit of treacherous memories.

Editorial.

MEDICAL SOCIETIES.—The local medical societies existing in most cities and large towns, which are accustomed to hold meetings once a week or once a month, have ever found it difficult to keep up a full or even a moderate attendance during the summer months. The increased amount of business at that season of the year, and the short evenings, are obstacles in the way of the punctual attendance of members. During the past summer, however, the excitement consequent upon the unhappy condition of the country, has furnished an additional obstacle in the way of maintaining social organizations.

For a few years past Chicago has had two medical societies, each in a tolerably active and prosperous state. Each has held its meetings once a month, and many members of the profession in the city belong to both. For the last three or four months it has been difficult to get a quorum together in either society, and in the Academy serious thoughts were entertained of disbanding altogether. But at the regular meeting held on the first Friday evening of this month, a new

start was taken, and all needful preparations were made for resuming the business of the Academy with renewed energy and interest. Preparatory steps were taken to lop off all the dead branches, to revise the finances, and to enter upon medical and surgical investigations and discussions more systematically than before. A standing committee was appointed to present, in the form of a brief report, at each meeting, whatever there was new and important to be gleaned from our current medical literature. The *treatment of delirium tremens* was chosen as the subject for discussion, and a member was appointed to deliver the Annual Oration at the next meeting.

The Chicago Medical Society, which is much older than the Academy, has had but a thin attendance at its meetings for a few months past, though its members have at no time thought of giving up its organization. Doubtless it, too, will now exhibit new life; and we would suggest that its meetings, from this time until spring, be held once a week, instead of once a month. There is no real jealousy between these organizations, and we trust they will both be active and prosperous at the time for the meeting of the American Medical Association, on the first Monday in June next.

WHAT AILS THEM?—The editors of the *Chicago Medical Journal*, who are also prominent members of the Faculty of Rush Medical College, seem to have been in a very unpleasant state of mind for many months past. Very few things appear to suit them. In one paragraph they give the government a slant about the war; in another they cast insinuations on the Army Board of Medical Examiners; in another they hint that some regimental surgeons have salivated their patients; and again it is blindly intimated that somebody has been appointed Surgeon to a regiment who had, at some time in his life, mistaken an inguinal hernia for a bubo. They are equally disconsolate and troubled about the manner in which the Army Board of Examiners for this State perform their duties, and in which we edit the EXAMINER, or even conduct our professional practice. We are sorry that our neighbors are in such a perturbed and unhappy state of mind, and the question has often been

asked, "What ails them?" Without claiming any superior skill, we think the answer can easily be guessed out. Less than three years since three members of the Faculty of Rush Medical College resigned their places in that institution. Those three, included the men who for years had given nearly all the preliminary lectures before the commencement of each annual session, had performed all the labor of finding accommodations for students as they came into the city, and had published their medical journal, furnished most of the members of the faculty with copies gratuitously, and footed the bills out of their own pockets. Since these resignations, a large part of the labors just enumerated have fallen upon the present editors of the *Chicago Medical Journal*, and it is a fact well known to careful observers, that *much labor* and *little pay* always produces a very unpleasant *constitutional irritation* in certain temperaments. This, together with the fact that neither President LINCOLN nor Gov. YATES saw fit to place the medical department of the army, either in the nation or the State, directly under the supervision of the senior editor of that journal, is amply sufficient to explain their unhappy condition. We hope they will learn to bear their infirmities with more patience.

MAL-PRACTICE SUIT.—A decision in the case of FARRELL *vs.* CADWELL, in the Superior Court, before Judge MCALISTER, has just been rendered against the defendant, fixing the *ad damnum* at *ten thousand dollars*. The defendant was Dr. F. A. CADWELL, a somewhat notorious oculist and aurist of this city, and the plaintiff, a domestic in one of the hotels. The plaintiff averred in her declaration, that on the 13th of July, 1860, she applied to the defendant to remove an imperfection from her left eye, being a scar caused by small-pox; that the defendant pretended he could restore the eye to its original appearance; that the operation would not be painful, and would not keep plaintiff from her work longer than six or seven days; that it would not impair the right eye, which was then well and healthy. That in consequence of these representations, she submitted to the operation, previously paying

the sum of $30, which he demanded in advance; that he conducted himself in an unskillful, ignorant and negligent manner; that he improperly cut and punctured the left eye, so that inflammation set in. That he afterwards did not visit the patient nor attend upon her; but carelessly and improperly caused her to be led out to his office, when she was in a weak and feeble state of health, whereby she took cold in her eyes, producing inflammation, whereby the left eye was lost; and afterward that he introduced into the right eye certain inflammatory drops, whereby the right eye was greatly injured, and its sight destroyed.

The defendant, on his part, alleged the disease was *staphyloma*, that he did not undertake to restore the eye to its original condition, but to reduce its size, in order to insert a glass eye over it; that he practiced ordinary, if not more than ordinary skill, for this purpose, and that the loss of the plaintiff's eye was the result of her own neglect, instead of his ignorance, neglect or mal-practice. The jury, after being out some sixteen hours, handed in their verdict, as above, when counsel for defense moved, in arrest of judgment, for a new trial.

Demonstrator of Anatomy.—In the September number of the Examiner we stated that the place of Dr. H. Wardner, formerly Demonstrator of Anatomy in the Medical Department of Lind University, but now Surgeon of the 12th Regiment of Illinois Volunteers, would be supplied during the present college term by Dr. J. S. Jewell. At the time, we supposed that such an arrangement had been completed, but the announcement was premature.

The place has since been filled by the appointment of Ernst Schmidt, M. D., of this city, but recently Professor of Pathology in the Humboldt Institute, of St. Louis. Prof. Schmidt is an accomplished scholar, and an experienced teacher, and we are quite sure that he will discharge the duties of his new position in such a manner as to confer honor, both upon himself and the University.

Chicago Sanitary Commission.—A citizen's meeting was held, in this city, on the 17th inst., at which the following

gentlemen were appointed a Sanitary Commission: Hon. Mark Skinner, President; H. E. Seelye, Esq., Permanent Secretary; E. W. Blatchford, Esq., Corresponding Secretary; Col. J. W. Foster, James Ward, Esq., Ralph N. Isham, M. D., Rev. Dr. Tiffany, and Rev. Mr. Patton.

We are not advised as to their sphere of duties, but presume they will co-operate with the National Sanitary Commission, and, directly, have in charge the welfare and sanitary care of our Illinois troops. And *ápropos* to which, we may mention that twenty additional nurses and two Sisters in charge, have been dispatched to St. Louis and Jefferson City, by the Sisters of Mercy of this city, making in all thirty-two able, intelligent, trained nurses sent hence by this Order to care for our sick and wounded in Missouri.

Opening of the Medical Colleges in Chicago.—The Medical Department of Lind University opened its regular winter term on Monday evening, the 14th inst., by an introductory lecture from Prof. E. Andrews.

The Rush Medical College commenced its regular term, we believe, on Wednesday evening, the 16th inst.

We are informed that the prospects are good for fair classes in both institutions. The Faculties of both will do their best to give every student who comes to Chicago as good facilities for education as he can find any where else.

Action of Opium on the Genito-Urinary Organs.—Dr. Geo. B. Willson, of Pt. Huron, Mich., commenting* on Dr. Woodward's article on the above subject, originally published in the Examiner, remarks that he has frequently seen the muscular coat of the bladder so paralyzed by the dose of one-third of a grain of acetate of morphia as to necessitate the use of the catheter, and proposes its relief or avoidance by the coincident use of sweet spirit of nitre. The Dr. goes on to define his views of the therapeutic action of the drug, differing from Dr. Woodward, as to its true impression upon the kidney,—the latter, it will be remembered, attributing the "increased secretion from the kidneys to its relaxing properties," while Dr.

* In the *Boston Medical and Surgical Journal*, Oct. 17th, p. 209, Vol. LXV.

Willson claims that "it acts upon the kidneys, the skin, and every other part by which it is excreted, as a direct irritant." This irritation, increasing the secretion of water simply, also produces "the spastic contraction of the sphincter of the neck of the bladder"—before alluded to as paralysis of the muscular coats, and this, he remedies by the relaxant and anti-spasmodic action of the sweet spirit of nitre.

Dr. Willson concurs with Dr. Woodward as to the anaphrodisiac effects of opium, and adds, that its use persevered in, repeatedly, for several days or weeks at a time, and with intervals of the same, will produce atonic spermatorrhœa, during the intervals.

We hope the Dr. will favor our readers with a paper on the effects of opium on the procreative functions, agreeing with him, that "it is a shame and disgrace to the profession, that so important an article should be so little understood."

Books and Pamphlets Received.—In addition to the volumes, noticed in the proceeding pages, we also have to acknowledge the receipt of *The Pathology and Treatment of Venereal Diseases; Including the Results of Recent Investigations on the Subject*, a handsome octavo volume of pp.686, by the well-known lecturer on this subject in the New York College of Physicians and Surgeons, and translator of Ricord's Hunter, Freeman J. Bumstead, M. D.

Also, the fifth American, from the seventh and revised London edition of Taylor's *Medical Jurisprudence*. Also, *The Transactions of the Medical Society of the State of New York, for the year*, 1861.

The *London Lancet*, Hay's *American Journal*, and the usual monthlies and weeklies are, also, received.

Dr. Gibson advises for stomatitis materna as "nearly specific as quinine for intermittent fever," chlorate of potash, half drachm doses daily, and application of solution of tannate of zinc to the part affected. The use of chlorate of potash in this and all kinds of stomatitis is indeed "nearly a specific," and has long been so regarded and employed in this city.—*Amer. Med. Monthly.*

United States Sanitary Commission.—We have not as yet, received the volume of the *Transactions* of this body; but reprint the following extracts from the "Notes of a Preliminary Survey of the United States Force in the Ohio and Mississippi Vallies, by H. W. Bellow, D.D., President of the Commission," from one of our exchanges:*

"Though low, it (Cairo) is now neither damp, muddy, nor unhealthy. The water which stands in the plain a few inches deep, after a heavy rain, very soon, owing to the sandy character of the soil, disappears. Engines are at work, also, to drain the surplus water off into the river. The army has cleared away some thousands of stumps from the central plain of Cairo, and created a very fine parade of two or three miles long, and a mile or so broad. Col. Paine's regiment was chiefly active in this good work, which will prove of lasting service to Cairo. The general health of the place is testified to by an intelligent resident physician (a Virginian) as being better than at most points on the Ohio and Mississippi. Fever and ague does not abound, and there seemed to be a general testimony among the army surgeons there, that the health of the troops was as good as at any other point, where so many men are collected. The sick list showed us about 250 on their backs in a force of 6000, which, at the close of June and first of July, is not an excessive number. The open, airy character of Cairo, situated between two rivers, which act by their unequal currents as perpetual ventilators, save it from the influence of the malarious airs, which seem to blow over it, and produce their mischievous effects in the high lands beyond, on bluffs crowded with wood, as at Villa Ridge, clothed with a forest obstructing the free passage of winds, and occasioning, perhaps, by a cooler atmosphere, a precipitation of the poison at a particular level. Cairo proves more healthful than would be supposed from its apparently exposed position."

Dr. Bellows finds in too many instances, much inattention to cleanliness, carelessness on the part of the men, overcrowding, etc., which seem to be the almost universal faults among our volunteers at first. We cannot help quoting one case of gross want of judgment in locating a camp, and of apparently culpable remissness on the part of the medical officers. Speaking of the 22d Illinois regiment, in camp at Caseyville, he says:

"The 22d regiment, Col. Dougherty, is in a wretched condition. It is encamped only a half mile to the east of the 13th.

*The *Boston Med. and Surg. Journal*, October 17, 1861.

But it is in a valley, beneath very shady trees, and under the lee of some hills, all which combine to make the miasmatic atmosphere stagnate at the spot. as the winds have no circulation. They have been there only thirteen days, but have 250 men, out of about 900, more or less sick with camp dysentery. This is due in part to the situation, but in part also to the water, which is black and disgusting. It is taken from some pits sunk in a kind of a half stagnant gutter, in the other end of which the pigs are rooting. All the water they have is from this wretched source, and they have not enough even of this. Of course they mix worse rum with this bad water, and the men are poisoned.

"The hospital is in a room hired for the occasion, which is a perfect pig-sty for nastiness. The accommodations are only for, say five and twenty, and the sick are 250. The steward (for both surgeon and assistant were absent) had made fifty prescriptions to-day, and was not through yet. The camp has no hospital tent or stores. except what it borrows from the 13th. The surgeon of that regiment is also absent. There is evidently a gross neglect in these easy absences, granted at a time when no excuse should suffice to absent the doctor, who is so sadly wanted."

Speaking of the effect of the water upon the health of a large camp, Dr. Bellows says:

"It is evident that change of water, and especially *bad* water, is the most immediate and serious cause of illness in all western camps at this time. Pains enough are not taken to place the camps with reference to the vicinity of good water. The best water in Illinois was said to be found at a ridge running down from four miles below Alton, near the Junction, where broad and excellent camping and parade grounds existed. The colonels had *prospected* this place, and approved it; but were nevertheless—so I heard from a reputable source—ordered to remain where they were, and where they had actually suffered at first for want of *enough* water, because the contractors found the immediate neighborhood of Alton a more profitable place to meet their engagements in!"

Referring to the matter of discipline, the Commissioner says:

"Col. Turner said the great difficulty was in getting the men to obey officers no better than themselves, and often not as good. The officers might *persuade*, but did not know how to *command* men they associated with at home as equals. And this is the chief misfortune about the volunteers, and really raises the question, whether the men of one district would not be better officered from another. The colonel

complained that it was very difficult to have the camp police, in respect to the use of sinks, carried out, and this was evident to several senses."

This is an evil which our Virginia experience must have done much to correct by this time; actual service in the field soon shows men the importance of obedience to their officers.

As a specimen of the operation of the red tape, we give the following:

"It is evident that the medical directors are in general too few, too old, or too inactive; that they do not go about and inquire into the wants of the surgeons and hospitals, and facilitate their accommodation with stores. The regiments at Caseyville, Cairo, Alton, had been visited by Dr. Taggart, who referred them to Dr. ——, who was with General McClellan. But all this roundabout inquiry compelled these urgent hospital wants to be referred to Springfield—a distant place—where orders were made out to be filled at Cincinnati, while at the time a medical director and purveyor both existed at St. Louis, with abundant stores, whence, at a distance of nine miles from Caseyville, twenty from Alton, and six hours or so from Cairo, all these wants could be in twenty-four hours fully met. I endeavored to bring this about; but the medical director at St. Louis is old and inactive, and past real usefulness; while Dr. Bailey, medical purveyor, no longer young, lives at Jefferson Barracks, where he is surgeon, and does the duties of this St. Louis post as extra service, which is all wrong. Young, active and efficient men are solely wanted in this important department. The lack of a regular inspector, U. S. A., flying through the camps, communicating information, and spurring on and facilitating official service, is most obvious."

Medicine and Surgery in the Army.—The U. S. Sanitary Commission have just published a circular, drawn up by Prof. Van Buren of New York, recommending the use of quinine in our armies, as a prophylactic against the malarious fevers of the regions they are now, or will be operating in during the war. The following extracts we re-print from the *Amer. Med. Times:*

"Dr. Van Buren alludes to his own experience while on the medical staff of the U. S. Army in Florida. A serious outbreak of miasmatic disease occurred at the station, and the stock of quinine being exhausted, a substitute was prepared with whisky, the bark of the common dogwood, wild cherry

bark, and a small quantity of quinine, which reduced the number of relapses, and mitigated the attacks.

The British naval authorities have long been impressed with these facts, and have acted accordingly. Dr. Bryson states in the Navy Medical Reports, (No. xv.) that—

"It has long been a standing rule in the Navy, enjoined by the 9th Article of the Surgeon's Instructions, that when men are to be sent on shore in tropical climates, to procure wood and water, or on other laborious duties, the surgeon, if he consider it advisable, is to recommend for each man, previously to his leaving the ship, in the morning, a drachm of powdered bark (Peruvian,) in half a gill of wine, and the like quantity of wine after the mixture; or, if there be no wine on board, one-eighth of a gill of spirits, mixed with the fourth of a gill of water, is to be used in lieu of it; and the same proportion of each is to be given to the men on their return to the ship in the evening."

The British Army has been similarly provided, and the medical officers directed to employ quinine as a prophylactic. During the war of the Crimea, the Medical Director of the Army wrote as follows to the Inspector General of Hospitals:

"With reference to previous letters on the subject of administering quinine, and other preparations of bark, as prophylactic remedies, I have the honor again to draw your attention to the matter. From all I have learnt I am persuaded that the number of cases of fever would be diminished by such a course. So convinced am I, especially by the results of the experience of naval medical officers, of the benefits arising from the prevention plan, when followed in localities in which remittent and intermittent fevers are likely to prevail, that I have taken care to provide ample supplies of quinine in anticipation of every possible demand for that article. Having now at command sufficient of this drug, specially provided for that service, to furnish five grains per diem to every member of a force of 35,000 men, I beg you will take such measures as you think proper, with a view to induce the medical officers to employ that remedy, in the hope that it may prove useful in warding off attacks of fever, etc."

During the preparations for hostilities in China, in 1859, the Director-General issued the following order: 'That a stock of quinine wine be provided, in order that a ration of it be given to the men previous to and during the unhealthy months, or when the soldiers are required to proceed up the rivers, or on being encamped in the vicinity of marshy ground. A medical officer should be present when the quinine wine is issued, and witness the same being drunk by the men.'

The committee continue their quotations at length from medical writers and travelers, showing conclusively that quinine is the great prophylactic as well as curative agent in malarious diseases. The importance of this circular at this critical period in the history of our volunteer army can scarcely be over-estimated. The great majority of the surgeons of these forces have been little accustomed to the treatment of malarious diseases. The season has arrived when the progress of the war is to transfer large bodies of troops directly into regions where malaria exists now in the most concentrated form. Unless some prophylactic is employed, these malarious fevers will decimate our susceptible army in six months, and render it impotent against an acclimated foe. Happily it is in our power to shield those who go bravely forth to meet the exigencies of war, from one of those consuming forces which threaten the Northern soldier in his progress Southward, viz: malarious diseases. We cannot sufficiently commend the Sanitary Commission for its prompt recognition of the medical necessities of our troops and the distingnished Chairman for the admirable and convincing manner in which he has presented this subject to the consideration of our authorities and the surgeons of the Army and Navy.

PIROGOFF'S operations at the ankle joint, has been recommended in an Order from the Medical Director of the Army of the Potomac, in preference to CHOPART'S, or to amputation above the ankle, in cases admitting a choice. As the operation is but little known, and the order may be extended by the Medical Directors of the Western Divisions, we re-publish, also from the *Times*, the description of the several steps as given by the author himself in an English publication:

'I commence my incision close in front of the outer malleolus, carry it vertically downwards to the sole of the foot, then traversely across the sole, and lastly obliquely upwards to the inner malleolus, where I terminate it a couple of lines anterior to the malleolus. Thus all the soft parts are divided at once quite down to the os calcis. I now connect the outer and inner extremity of this first incision by a second semilunar incision, the convexity of which looks forward, carried a few lines anterior to the tibio-tarsal articulation. I cut through all the soft parts at once down to the bones, and then proceed to open the joint from the front, cutting through the lateral ligaments, and thus exarticulate the head of the astragalus. I now place a small narrow amputation saw obliquely upon the os calcis, behind the astragalus, exactly upon the sustentaculum tali, and

saw through the os calcis, so that the saw passes into the first incision through the soft parts. Saw carefully, or the anterior surface of the tendo achillis, which is only covered by a layer of fat and a thin fibrous sheath, might be injured. I separate the short anterior flap from the two malleoli, and saw through them at the same time close to their base. I turn this flap forwards, and bring the cut surface of the os calcis in apposition with the articular surface of the tibia. If the latter be diseased it is sometimes necessary also to saw off from it a thin slice with the malleoli.'

It will be seen that Pirogoff's operation originally consisted in dividing the os calcis at right angles to its long diameter, and applying the cut surface to the articular face of the tibia, the malleoli being removed. More recently it has been slightly modified in various ways as removing the articular surface of the tibia, dividing the os calcis obliquely from above downwards and forwards, etc. It will be seen that Pirogoff's operation is, in fact, the operation for ununited bones, the two cut surfaces being placed together for the purpose of obtaining union.

Such is Pirogoff's operation. Now, as to its absolnte and relative merits, the author himself thus sums them up:

'1. The tendo achillis is not divided, and so we avoid all the disadvantages connected with its injury. 2. It also follows that the base of the posterior flap is not thinner than its apex, while the skin on the base of the flap remains ununited with the fibrous sheath of the tendo achillis. 3. The posterior flap is not cap-like, as in Syme's method, and its form is therefore less favorable to a collection of pus. 4. The leg, after my operation, appears an inch and a half (sometimes even more) longer than in the three other operations (Syme, Baudens, Roux), because the remnant of the os calcis left in the flap, as it unites with the inferior extremities of the tibia and fibula, lengthens them by an inch and a half, and 5. Serves the patient as the point of support.'

Much has been written for and against this operation. Several of the early cases were represented as terminating unfavorably by the death of the remaining portion of the os calcis, and its final separation. At one period, it was alleged that its projector had himself abandoned it. Recently, however, the statistics of the operation have been collated, and they give a more favorable impression of its value. Its mortality is fixed at about fifteen per centum, the rapidity of the cure equals that of other amputations, and the resulting limb is undeniably the best that can be obtained for direct use.

Arsenious Acid a Substitute for Quinine.—Brigade-Surgeon Turner has employed arsenious acid for twenty years in the treatment of intermittent fevers, and on account of the great drain upon the cinchona tree, its failure in India, and his strong opinion as to the equal, if not greater, value of arsenious acid in the above named diseases, he now brings the results of his experience before the profession, in a communication through Sir Ranald Martin, C. B., to the Royal Medical and Chirurgical Society, published in the *Lancet*. He considers the fears of any inconvenience or danger arising from the remedy as much exaggerated, and instances the case of a child nine months old, to whom he gave twenty minims of the arsenite of potash within ten hours, repeating the dose on the following day, with the only effect of curing an obstinate quotidian intermittent. Mr. Turner's success was so marked, that in 1860, the Director-General stated that Mr. Turner should be thanked for "drawing attention to his successful treatment of intermittent fevers by large doses of arsenic, and steps should be taken by circular, to urge an extended trial of this remedy, and reports requested." The course usually adopted by the author, was to give the arsenite of potash and compound tincture of cardamoms, of each half a drachm; gum mucilage, three drachms; camphor mixture or water, half an ounce; mix. To be given every second hour four or five times, the last to anticipate the expected paroxysm at least two hours.

Industry of John Hunter.—On a young gentleman from the country being introduced to him as one who had come to town to pursue his studies under his directions, he addressed him thus: 'Well, young gentleman, so you are come to town to be a surgeon; and how long do you intend to stay?' 'One year,' was the reply. 'Then,' said Hunter, 'I'll tell you what, that won't do; I've been here a great many years, and have worked hard, and yet I don't know the principles of the art.' After some further conversation, the student was directed to call again in an hour, to accompany the surgeon to the hospital, where, after the business of the morning was over, he said to him; 'Come to me to-morrow morning, young gentleman, and I will put you further in the way of things; come early in the morning, as soon after four as you can.' The young man kept the appointment, and at that early hour in the morning, he found Hunter at work dissecting beetles!

Here we have the secret of John Hunter's success, and of every other man's success who has attained great distinction in any art or science.

History tells us that 'his leisure hours were never allowed to remain unemployed.' He had a very different estimate of the amount to be learned, and the time and industry necessary for its accomplishment, from most people either of that or the present day.—*Dental Cosmos.*

Causes of Mild Stomatitis in Infants.—The mucous membrane of the mouth is very irritable, being accustomed only to amniotic liquor in a fœtal life, and to milk in the early stage of extra-uterine existence. Every change in the diet, therefore, the bad qualities of the maternal or artificial nipples, the use of candy, sucking bags, or alcoholic beverages, coffee, or stimulants of whatever kind, will act as irritants, producing hyperæmia or inflammation, in a more or less severe form. It is by no means common to observe very severe forms of stomatitis after all such preceding causes; on the contrary, the large majority of cases, including those depending on primary acute catarrh of the stomach, and the raising of a large quantity of gastric acid, so frequent in infantile age, are very mild.—*Prof. Jacobi, in Am. Med. Times.*

Measles Pre-disposing to Fevers.—Dr. Shipman, Surgeon to the 17th N. Y. V. M., says, in a recent letter to the *Am. Med. Times*, that "there was one thing that was to me quite a new feature. It was the effect which measles had in rendering the men susceptible to attacks of fever for a long time afterwards. While in the Park Barracks, New York, a great many of our men were affected with measles, and were sent to the hospitals. In time they recovered and joined the regiment, apparently in good health, but in the course of the summer these men were attacked without an exception, and their cases proved the most obstinate of any under treatment, and were protracted, and all assumed a typhoid character."

Effects of Climate upon Northern and Southern Troops.—Comparing the Northern soldier with the Southern, we believe the former will withstand the effects of the climate for a short campaign of a year or more better than the latter; and though the popular belief is divergent to this view, the statistics of our war with Mexico fully sustain it, and the published opinion of no less an authority than Dr. Nott, of Mobile, in the *Southern Jour. of Med. and Pharmacy*, for January, 1847, confirms it.

The statistics of the Mexican War are so remarkable, that we present them as we find them, given in a recent number of the *Evening Post:*

On April 8th, 1848, the Secretary of War made a report to

the United States Senate of the losses of the volunteer forces employed in Mexico. From this, it appears that seven Northern States—Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Indiana and Illinois—furnished, in the course of that war, 22,573 men. Of this force, the total loss from disease was 2,931 men; less than one-eighth of the whole. Nine Slave States—Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisianna, Tennessee and Kentucky—furnished 22,899 men. The loss from this force from disease, and death caused from disease, was 4,315 or more than one-fifth; a very considerable difference in favor of Northern troops.—*Am. Med. Monthly.*

Russell on American Military Surgeons.—The London *Lancet* in a recent number quotes the following from one of Mr. Russell's letters to the *Times*: "The surgeons remained on the field when all others were retiring or had left. One is reported killed; six are prisoners in the hands of the enemy, engaged in attending the wounded on both sides, and an invaluable aid to the scanty medical staff of the Confederates." This is gratifying to us as a profession. It is a noble tribute to the humanity which characterizes, under whatever circumstances they may be placed, the disciples of the healing art. Far be it from us to depreciate the heroism of the combatant soldier when he rushes to meet, in mortal strife, the opposing force; but there is a heroism of a higher character—the heroism of the men who, after the fierce conflict is over, administer to the wants and necessities of those who have been wounded in the fray. Cool amidst danger, devoted to their humane efforts to preserve life, they pursue their beneficent calling amidst peril and without the hope of adequate reward. What a commentary is this upon the injustice and neglect to which medical officers attached to armies have been almost invariably subjected!

Oil of Valerian in Typhus.—During an epidemic typhus at Toulon, in 1856, characterized by stupor, somnolence, coma and great debility, the usual remedies proved of no great benefit, and M. Barrallier therefore had recourse to the essential oil of valerian. Administering it first to persons in good health, he found that it produced the following symptoms: diminution of the arterial pulsations at first, with subsequent elevation in the greater number of cases; increased heat of skin; marked perspiration with the smell of valerian; feeling of oppression in the temporal region; cephalalgia, most commonly frontal, sometimes very intense; diminution of muscular force, inaptitude for intellectual exertion; inclination to sleep; deep sleep, nausea and salivation in certain cases; dislike to food when

the medicine was given in the dose of thirty or fifty centi grammes; abundant flow of urine, more highly colored than usual, with a smell of valerian. In typhus, the remedy was employed not only against the somnolence and coma occurring in the second or third week, but also at the very commencement of the disease, in order to moderate the nervous irritation. At the more advanced periods it appears to rouse the patients from their lethargic condition. Besides this, there appear as other effects: eyes widely open, intelligence more clear, correct answers to questions, increase of the arterial pulsations, with subsequent depression; diminution in the quantity of urine, and slight perspiration.—*Cincin. Lancet.*

Glycerole of Chlorate of Potash.—Two and a half drachms of the chlorate, in powder, dissolved in three ounces of glycerine, have been experimented with at Bicêtre, under the direction of Martinet, and found to possess, in that combination, remarkable disinfecting properties. Besides these, the mixture gives the pus, even when of a serous kind, a greater consistence, often like cream, and may by that action, tend to prevent the occurrence of purulent or putrid infection. The preparation is not adapted for wounds or sores of a bright red color, nor for those that are recent or of healthy appearance.—*Edinb. Med. Journ.; from Bull. Gén. de Thérap.*)

Tincture of Digitalis in Delirium Tremens.—Our exchanges continue to bear unequivocal testimony to the value of large doses of tincture of digitalis in the treatment of delirium tremens. In a late number of the *Medical Times and Gazette*, Dr. Francis E. Cavey, of Guernsey, mentions several cases of the successful use of this remedy after the entire failure of the opium treatment. He gave the tincture of digitalis in half-ounce doses, with an equal quantity of gin, and in every case found one dose sufficient. He did not find the digitalis to cause diarrhœa, vomiting, or an increased urinary secretion. One case in which the digitalis was given, was an epileptic, who had also serious disease of the heart—an aortic systolic murmur, with extensive hypertrophy. No evil effects whatever resulted in this case.

Our own experience with large doses of the tincture of digitalis in the insane department of the Philadelphia Hospital has also been very satisfactory, both in cases of delirium tremens, of which we receive a great many, and in cases of high mental excitement usual in the wards of a hospital for the insane. We usually give it in combination with an equal qnantity of fluid extract of lupulin, giving a tablespoonful every two or three hours. Sleep usually supervenes after two or three doses have been administered.—*Med. and Surg. Rep.*